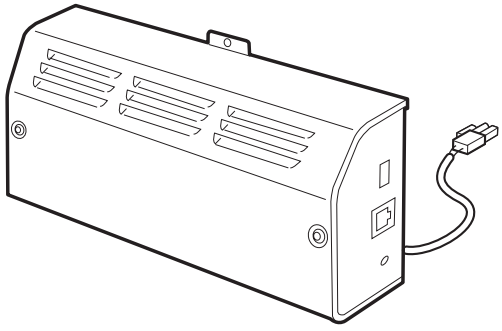
SHARP SERVICE MANUAL

CODE : 00ZARNB2N/A1E



DIGITAL COPIER/ PRINTER/MULTIFUNC-TIONAL SYSTEM OPTION

MODEL AR-NB2N

CONTENTS

[1] CONFIGURATION . . . . . 1 - 1

[2] SPECIFICATIONS . . . . . 1 - 1

[3] UNPACKING AND INSTALLATION . . . . . 3 - 1

[4] SETUP IN A WINDOWS ENVIRONMENT . . . . . 4 - 1

[5] UPDATING NETWORK BOX FIRMWARE . . . . . 5 - 1

[6] TROUBLE CODE . . . . . 6 - 1

[7] CIRCUIT DIAGRAM . . . . . 6 - 1

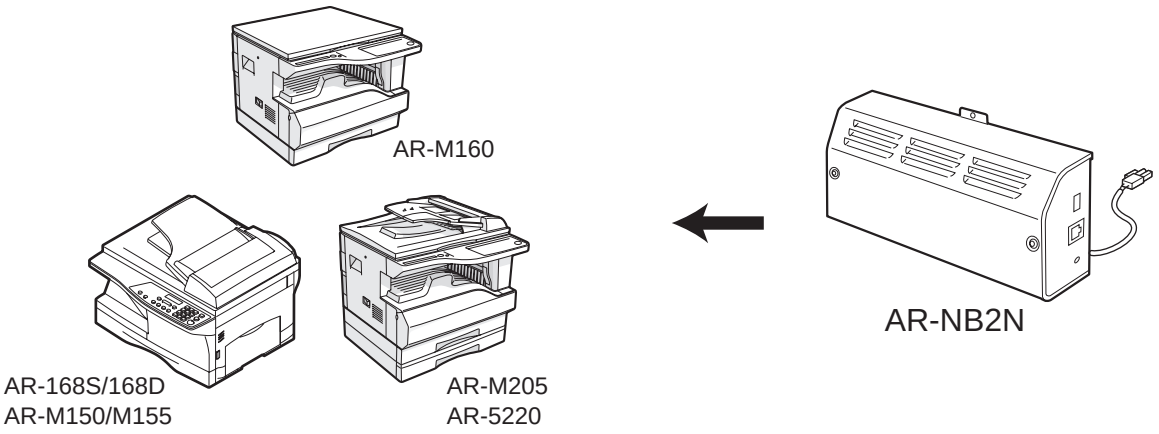
[8] PWB PARTS LAYOUT . . . . . 7 - 1

Parts marked with "⚠" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

SHARP CORPORATION

This document has been published to be used for after sales service only.
The contents are subject to change without notice.

[1] CONFIGURATION



[2] SPECIFICATIONS

1. BASIC SPECIFICATIONS

ITEMS	SPEC
Extensible model	AR-M160/AR-M205/AR-5220 series, AR-168S/168D, AR-M150/M155
Standard memory	64MB
Expansion memory	DIMM 1slot 144pin 128/256MB SO-DIMM
Platform of Client PC	IBM PC/AT compatible, Macintosh
Expansion memory for fonts	Bar-code font memory Flash ROM kit
Useable OS	Windows95/98/Me/NT4.0/2000 professional/Windows XP Home Edition/ Professional Edition
	Mac OS 8.6-9.x,10.1.5,10.2-10.2.8(w/ o 10.2.2)(PS option)
Required hardware(PC)	(System) The conditions of each OS which can be used are required. (HDD) Exceeding 100M is recommended. (Monitor) 800 x 600 dots (Interface) 10BASE-T/100BASE-TX Ethernet
Required software	Internet Explorer 5.5 or later Netscape Navigator 6 or later
Extensible option	PS extensible kit (AR-PK1) Bar-code font kit (AR-PF1) Flash ROM kit (AR-PF2)
Network Protocol	TCP/IP, IPX/SPX, NetBEUI, Ether Talk
Emulation (The functions which can be used differ by The MFP connected)	PCL/PS (PS:Cancels by the soft key)
Network Print	PCL/PS
Network Scan (The functions which can be used differ by The MFP connected)	Scan to E-mail, Scan to FTP, Scan to Desktop
E-mail alert status	Yes (Cancels by the soft key)
Power supply	Supplies via copier (AC power supply built-in) AC120mA

ITEMS	SPEC
Power consumption	5.5W
Outside dimension (W x D x H)	248mm x 127mm x 59mm
Accessories	USB cord x 1 (for connection to Copier) Software CD-ROM x 4 Screw for installation x1 Clamp x 1 (for harness fixation) Installation manual Installation guide ∗An installation manual exists in driver CD-ROM by the pdf file format.
Bundle software	Disk1:Driver CD-ROM for AR-M160/M205, AR-5220 • PCL driver (Win) • PS driver (Win/Mac) • SMON (Win) • PAU (Win) • NIC Manager (Win) • Online manual (Win/Mac) Disk2:Network setting CD-ROM • NIC Manager (Win) • Quick Setup (Win) • SC-Print2000 (Win) • Online manual (Win/Mac) • Setup Utility (Mac) Disk3:Application CD-ROM • Sharpdesk LT (3 license) Disk4:Driver CD-ROM for AR-M168S/168D, AR-M150/ M155 • PCL driver (Win) • PS driver (Win/Mac) • SMON (Win) • PAU (Win) • NIC Manager (Win) • Online manual (Win/Mac)

2. FUNCTION DESCRIPTION

A. PRINT EMULATION

A difference exists in the function which can be used by execution of the basic performance and composition of the MFP to connect (print size/configuration).

(1) comparison table of main print function classified by driver

Function		PCL5e Custom Driver	PCL6 (XL)/ SPDL2 Custom Driver	PS Custom Driver	Macintosh PPD file	Windows PPD file
General	Document Style	1-Sided, 2-Sided(Book) 2-Sided(Tablet), Pamphlet Style(Tiled Pamphlet), Pamphlet Style(2-up Pamphlet)			1-Sided, 2-Sided(Book), 2-Sided(Tablet)	
	Booklet	Yes			No	
	Binding Edge	No				
	N-up	2/4/6/8/16				Win 9x : 2/4 Win2K/XP: 2/4/6/8/16
	N-up Order	Z	Z, Reverse Z, N, Reverse N			Z
	Custom Paper Size	1size				3 sizes
	Different 1st (Cover)	Yes				No
Graphic	Resolution Setting	600/300 dpi		600dpi		
	Half tone Setting	No		Yes	No	
	Graphics Mode	Raster/HP-GL2	Raster/Vector	No		
	Negative Image	No		Yes		
	Mirror Image	No		Yes		
	Fit to Page	Yes			×	
Font	Resident Font	80 fonts		136 fonts, 5 Kanji fonts (Japan only)	35 fonts, 5 Kanji fonts (Japan only)	136 fonts, 5 Kanji fonts (Japan only)
	Download font	Yes			No	Yes
Others	Configuration Setting	Yes (Automatic)				No
	Job Compression	No		Yes	No	
	Bitmap Compression	No		Yes	No	

(2) comparison table of printing function for each driver

The model to connect		AR-M160/AR-M205, AR-5220 series / AR-168S/168D, AR-M150/M155				
Function		PCL5e	PCL6	PS	Mac PPD	Win PPD
General	Copies	1-999				
	Orientation	Portrait/Landscape				
	Collate	Collate/Group				
	Document Style	1-Sided, 2-Sided(Book), 2-Sided(Tablet), Pamphlet Style(Tiled Pamphlet), Pamphlet Style(2-up Pamphlet)			1-Sided, 2-Sided(Book), 2-Sided(Tablet)	
	Booklet	(AR-M160/AR-M205, AR-5220 series) Invoice on Letter, Letter on Ledger, A5 on A4, A4 on A3, B5 on, B4, Letter on Letter, Ledger on Ledger, A4 on A4, A3 on A3, B4 on B4 (AR-168S/168D, AR-M150/M155) Invoice on Letter, A5 on A4, Letter on Letter, A4 on A4			No	
	Binding Edge	No				
	Margin Shift	No				
	N-up	2/4/6/8/16				Win9x: 2/4 Win2k/XP: 2/4/6/8/16 *2
	N-up order	Z	Z, Reverse Z, N, Reverse N			Z

The model to connect		AR-M160/AR-M205, AR-5220 series / AR-168S/168D, AR-M150/M155				
Function		PCL5e	PCL6	PS	Mac PPD	Win PPD
General	N-up Border	On/Off			Yes (Single hairline/Single thin line/Double hairline/Double thin line)	On/Off *2
Paper	Paper Size	(AR-M160/AR-M205, AR-5220 series) A3/B4/A4/B5/A5/B6/A6/11x17/8.5x14/8.5x13/8.5x11/5.5x8.5/Folio/Executive/COM-10/DL/C5/8K/16K (AR-168S/168D, AR-M150/M155) A3/B4/A4/B5/A5/B6/A6/11x17/8.5x14/8.5x13/8.5x11/5.5x8.5/Folio/Executive/COM-10/Monarch/DL/C5/8K/16K				
	Fit to Page size	(AR-M160/AR-M205, AR-5220 series) A3/B4/A4/B5/A5/B6/A6/11x17/8.5x14/8.5x13/8.5x11/5.5x8.5/Folio/Executive/COM-10/DL/C5/8K/16K (AR-168S/168D, AR-M150/M155) A4/B5/A5/B6/A6/8.5x14/8.5x13/8.5x11/5.5x8.5/Folio/Executive/COM-10/Monarch/DL/C5/8K/16K				
	Paper Type	No				
	Custom Paper Size	1 size			1size *1	3 sizes *2
	Source Selection	Auto/Bypass (Auto)				
		AR-M160/AR-M205, AR-5220 series: Tray 1/2/3/4 AR-168S/168D, AR-M150/M155: Tray 1/2				
	Different 1st (cover)	On/Off				No
	Transparency Inserts	No				
	Carbon Copy	No				
Paper Output	Output Tray Selection	No				
	Staple	No				
Graphic	Resolution Setting	600/300 dpi		600 dpi		
	Half tone Setting	No		Screen Frequency 8 to 360.0 in 0.1 steps Screen angle 0.0 to 360.0 in 0.1 steps	No	
	Graphics Mode	Raster HP-GL2	Raster Vector	No		
	Smoothing	No				
	Toner save	No				
	Half tone Enhance	No				
Graphic	Brightness	No				
	Negative Image	No		On/Off		
	Mirror Image	No		Horizontal/Vertical		
	Zoom	No			25-400%	
	Fit to Page	On/Off			No	
Font	Resident Font	80 fonts		136 fonts	35 fonts	136 fonts
	Download Font	Bitmap, TrueType, Graphics			No	Type1 True Type
Others	Configuration Setting	Yes (Automatic)				No
	ROPM	On/Off				
	Overlay	On/Off			No	
	Print Auditor	No				
	Job Retention	No				
	Watermark	On/Off			On/Off(With functional restriction)	
	Page Protection	No				
	Job Compression	No		None, Fastest, Fast, Medium, Best	No	
	Job Compression	No		None, Very High, High, Medium, Draft	No	

*1:Mac OS 10.1 is not supported.
*2:Windows NT is not supported.

(3) PDF/TIFF direct printing function

PDF and TIFF files can be specified from a web page and directly printed out.

(4) Limitations (printing function)

If a print request for GDI/SPLC data is made, an error message is printed out.

(5) Printer condition setup

The following setup can be made from the web page.

Default Setting Items

Function	Item		Default
	AR-168S/168D, AR-M150/M155	AR-M160/M205, AR-5220	
Copies	1-999		1
Orientation	Portrait / Landscape		Portrait
Default Paper Size	(Overseas) •Invoice •Letter •Foolscap •Legal (Domestic) •A5 •B5 •A4 (China - size of AB system) •A5 •B5 •A4 •16K	(Overseas) •Invoice •Letter •Foolscap •Legal •Ledger (Domestic) •A5 •B5 •A4 •B4 •A3 (China - size of AB system) •A5 •B5 •A4 •B4 •A3 •16K •8K	Letter or A4
Default Paper Source	drop down box select values: •AUTO •Tray1 •Tray2 •BYPASS	drop down box select values: •AUTO •Tray1 •Tray2 •Tray3 •Tray4 •BYPASS	AUTO
Disable Blank Page Print ∗When destination language is Japanese.	Enable/Disable		Disable
2-Sided Print	drop down box slect values: •1-SIDED •2-SIDED (BOOK) •2-SIDED (TABLET)		1-SIDED
ROPM	Enable / Disable		Disable

(6) Network status page

The network status pages shows a list of settings about the network.

Data are printed out in the A4 or letter size in US English regardless of the destination and OS language selected.

The status page can be printed out by pressing the status switch on the network expansion kit.

Note:

1. The name of the printer is printed under the item "printer name."
2. When WINS is disabled, "WINS server 1-5" is not displayed. It is displayed when a value is set or information is acquired from the DHCP server.

   Any server which responds normally to the registration of WINS is marked with an asterisk "∗".

   "WINS server" shows up to 5 values: 2 settings, 2 DHCP values, and broadcast. However, the broadcast operates only when no normal response is returned from any server.
3. The "WINS Scope ID" is displayed only when a value is set or when information is acquired from the DHCP server and more than one piece of information is valid as a WINS server.

B. NETWORK SCANNING FUNCTION

It is possible to use the MFP scanning function as a network scanner with a network scanner expansion kit. Setups can be made using a Web browser. Supported functions vary with the type of the MFP connected.

(1) Basic scanning function

Function	Item	AR-168S/168D, AR-M150/M155	AR-M160/M205, AR-5220	Remarks
Network scanner	Scan to E-mail	Yes	Yes (when AR-EB7 is installed)	
	Scan to Desktop	Yes	Yes (when AR-EB7 is installed)	
	Scan to FTP server	Yes	Yes (when AR-EB7 is installed)	
Destination	Specify e-mail address with LDAP	Yes	Yes (possible on Web)	
	AdHoc (Enter e-mail address from MFP.)	Yes	No	
File format	JPEG PDF (non-compression, G3, G4) TIFF (non-compression,G4, G4)	Yes	Yes	TIFF/PDF multiple page support

(2) Scanner settings

Setting	Item		Default		Remarks
	AR-168S/168D, AR-M150/M155	AR-M160/M205, AR-5220	AR-168S/168D, AR-M150/M155	AR-M160/M205, AR-5220	
Scanning size			A4 (AB region) Letter (Inch-system region)		A3, B4 and Ledger are supported only by AR-M160/M205, AR-5220.
File format	JPEG color/JPEG gray scale/PDF color/PDF gray scale/PDF monochrome, binary non-compression/PDF monochrome, binary G3 compression/PDF monochrome, binary G4 compression/TIFF color/TIFF gray scale/TIFF monochrome, binary non-compression/TIFF monochrome, binary G3 compression/TIFF monochrome, binary G4 compression		TIFF monochrome, binary G4 compression		
Color mode	Monochrome, 2 gradations/Gray scale/Full color		Monochrome, 2 gradations		Available only at the “monochrome”.

Setting	Item		Default		Remarks
	AR-168S/ 168D, AR-M150/ M155	AR-M160/ M205, AR-5220	AR-168S/ 168D, AR-M150/ M155	AR-M160/ M205, AR-5220	
Resolution	75/100/150/200/ 300/400/600		75		Selectable resolutions vary with different memory capacities.
B/W threshold	1-254 (default: 128)		128		
Light source	Red/ Green/ Blue	White/ Red/ Green/ Blue	Green	White	Light source can be selected only when the color mode is in "Monochrome".
Void	On/Off		On		When On is selected, the edges of images are cut.

(3) Send file (message and filename)

- Information contained in filename

Sender name	:	Use MFP product name.
Date & Time	:	Date and time at which file is sent
Session page counter	:	Image send counter
Unique identifier	:	Automatically created based on the information of the date and time and image send counter.

Example: AR-M350_20000620_155114_0057_06a3f3393948.pdf

- Mail subject

  Can be freely set.

  Default: Scanned image. device name: AR-XXX (MFP product name)

  Example: Scanned image. device name: AR-350M

- Mail message

  The following messages are added to the image send mail.

Device name:	Freely set
Model:	MFP product name
Location:	Freely set
File type:	File type of send image
Resolution:	Resolution of send image

Example;

Device name :AR-350M

Model name :AR-350M

Location :D2) Planning dept.

File type :PDF MMR (G4)

Resolution :200 dpi x 200 dpi

(4) Recipient registration

[AR-M160/M205, AR-5220]

- Up to 6 destinations can be registered on the network expansion kit to which the scan can be sent from the network scanner. Six recipients can be allocated to the scan buttons on the AR-M160/M205, AR-5220, AR-168S/168D, AR-M150/M155.
- The mail address registered for each destination can be selected from the mail address which is searched using LDAP.
- The information for each recipient includes the recipient name, IP address or mail address, scanning size, format type, and scan parameter.

[AR-168S/168D, AR-M150/M155]

- Up to 200 destinations can be registered on the network expansion kit to which the scan can be sent from the network scanner.
- The mail address registered for each destination can be selected from the mail address which is searched using LDAP.
- The information for each recipient includes the recipient name, IP address or mail address, scanning size, format type, and scan parameter.
- Either of LDAP-selected or directly-entered mail address scan setting is available. If the destination is a mail address entered through the main system or selected by LDAP, this scan setting is used.
- The destination name is displayed on the LCD.

(5) Scanning size

[AR-M160/M205, AR-5220]

- The scanning size is the size of the document sensed or predetermined by the main unit(copier).
- If there is no information available about the document size from the main unit(copier), scanning is performed according to the scanning size predetermined in the destination registration section in advance. However, a detected or predetermined document size takes precedence over the information predetermined.

[AR-168S/168D, AR-M150/M155]

- Scanning size is the size set up in main unit(Copier).
  (Apply to the main scan, a subscan, SPF, and OC)

(6) Scanner limitations

[AR-M160/M205, AR-5220]

- This unit should be connected to the USB port on the dual function board of the main unit(copier).

[AR-168S/168D, AR-M150/M155]

- The scanning function is allocated to the network expansion kit. The b Button Manager settings are disabled.
- When the network expansion kit is connected, the scanner function through TWAIN (pull scan) and push scan which used button manager on pc are not available.

C. FUNCTIONS BY INTERFACE

When the network expansion kit is connected, the following functions are available by system interface.

System I/F (main unit)	AR-NB2N I/F	Function				
		SPLC	GDI	PCL5e/6	PS (*1)	Net Scan
USB2.0	RJ45 (LAN)	No	No	Yes	Yes	Yes
USB1.1	→	Yes	No	No	No	No
IEEE1284	→	Yes	No	No	No	No
USB2.0	→	Yes	No	No	No	No
USB1.1	RJ45 (LAN)	No	No	Yes (*2)	Yes (*2)	No
IEEE1284	→	Yes	No	No	No	No
USB1.1	RJ45 (LAN)	No	No	Yes (*2)	Yes (*2)	No
IEEE1284	→	No	Yes	No	No	No

(*1): PS requires soft keys of the AR-PK1.

(*2): Some functions are not available.

D. NETWORK SETUP

Network setups should be performed by the system administrator. Use a setup tool such as TCP/IP, Netware, Ether Talk or Web interface.

E. SOFTWARE SETUP

The network expansion kit can be installed by setting up NIC, installing a printer driver with the total installer, and installing Sharpdesk.

(1) Installing driver

The network expansion kit printer is connected only through the network. The port setup required for installing a printer driver is the network only. The following items should be set up.

- TCP/IP peer-to-peer port

1) Search for the network expansion kit on the network and select the network expansion kit you want or enter the IP address of the applicable network expansion kit to create a TCP/IP port.
2) Install the driver to the created port.

- Windows printer shared port

When the setup of the above client PC is completed and the printer is set to "Windows shared printer," other client PCs can select this printer shared port and then proceed to installation of the driver.

F. HARDWARE SETUP

[AR-M160/M205, AR-5220]

1) Requirements for connecting network expansion kit
   - Dual function board mounted model is recommended
   - Dual function board is surely required for network scanning
2) Connection to the main unit(copier)
   - When Dual function board is used, connects with USB2.0 port of a main unit(copier).
3) Power supply

   Supplied by the main unit

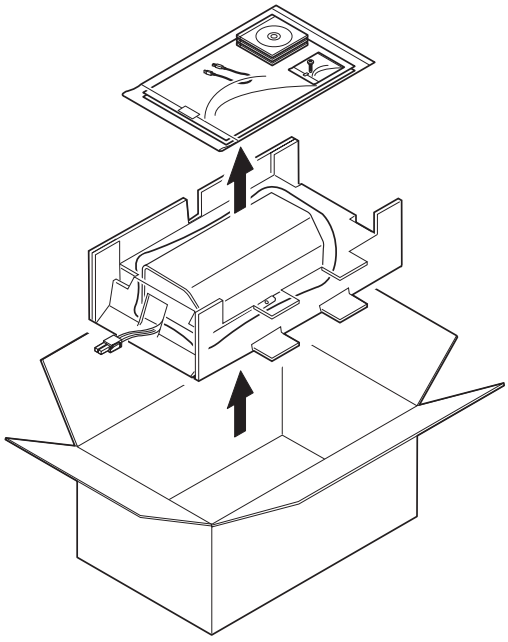
[AR-168S/168D, AR-M150/M155]

1) Connection to the system unit
   - Connect to the USB2.0 port
2) Power supply

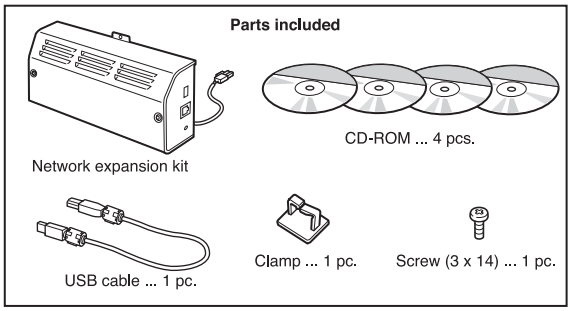
   Supplied by the main unit.

[3] UNPACKING AND INSTALLATION

1. UNPACKING



2. PACKAGED GOODS



3. INSTALLATION PROCEDURE

This installation procedure is provided for AR-M160/AR-M205/AR-5220 series, AR-168S/168D, AR-M150/M155.

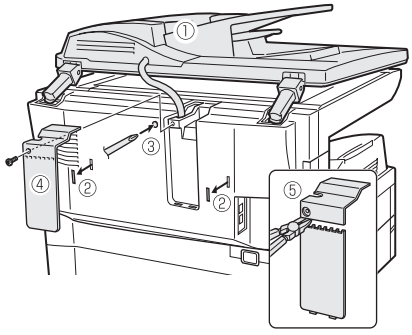
For Installation to other models, see the operation manual of the main unit or the service manual.

A. FOR AR-168S/168D, AR-M150/M155

Turn off the main switch of the main unit and remove the power plug of the copier from the outlet.

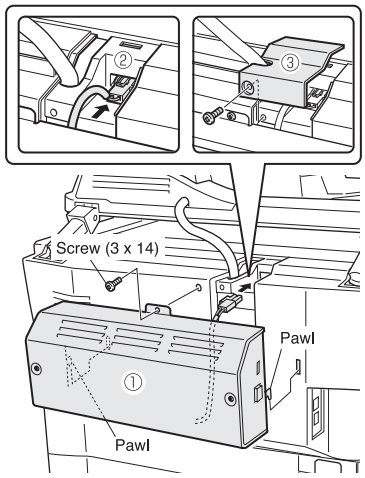
1. Cut the rear cabinet.

1) Remove the SPF from the main unit and gently place it on the document glass as shown in the illustration.
2) Cut out two cut-out portions from the rear cabinet using a cutter or the like.
3) Use a Phillips screwdriver or the like to open a hole.
4) Remove the screw and then remove the rear cabinet cover.
5) Cut out a part of the rear cabinet cover with nippers or the like as shown in illustration.
   (Be careful about the orientation of the nippers so that the cross section is flat.)



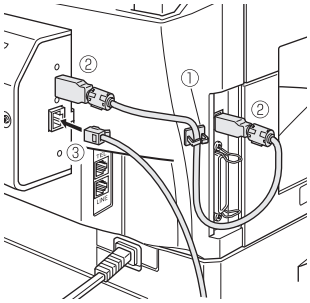
2. Attach the network expansion kit.

1) Engage the two pawls on the rear of the network expansion kit with the cutout portions of the main unit and secure the kit with the supplied screw (3 x 14).
2) Connect the connector of the network expansion kit to the connector of the main unit.
3) Secure the rear cabinet cover to the main unit with the screw.
4) Attach the SPF to the main unit.



3. Connect the USB cable and the network cable.

1) Attach the supplied cable clamp to the position shown in the illustration.
2) Connect the USB cable to the network expansion kit and the main unit.
   At this time, reduce slack of the cable with the cable clamp as shown in the illustration.
3) Connect the network cable.



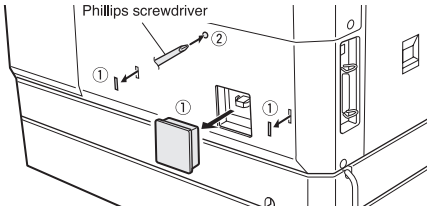
Insert the power plug of the copier to the outlet, turn the main switch of the copier to the "ON" position, and then perform network setting and installation of the software.

B. FOR AR-M160/M205/5220

Turn off the main switch of the main unit and remove the power plug of the main unit from the outlet.

1. Cut out the cut-out portions from the rear cabinet.

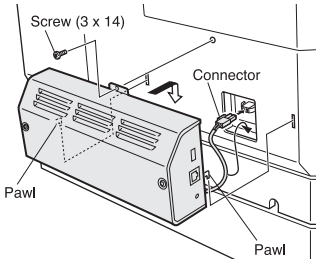
1) Cut out three cut-out portions from the rear cabinet using a cutter or the like.
2) Use a Phillips screwdriver or the like to open a hole.



2. Attach the network expansion kit.

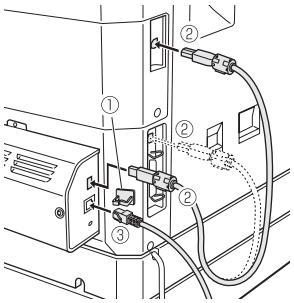
Connect the connector of the network expansion kit to the connector of the main unit and put excessive harness into the cut-out portion in the main unit.

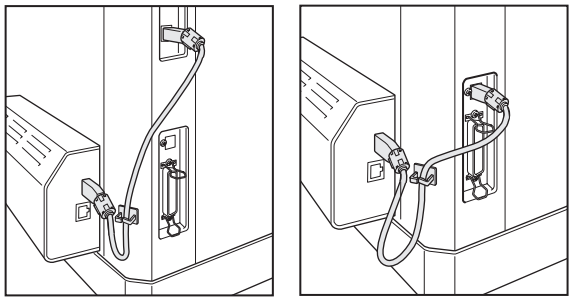
Engage the two pawls on the rear of the network expansion kit with the cut-out portions of the main unit and network expansion kit using the supplied screw (3 x 14).



3. Connect the USB cable and network cable.

1) Attach the supplied cable clamp to the position shown in the illustration.
2) Connect the USB cable to the network expansion kit and the main unit.
   At this time, reduce slack of the cable with the cable clamp as shown in the illustration.
3) Connect the network cable.





Insert the power plug of the copier to the outlet, turn the main switch of the copier to the "ON" position, and then perform network setting and installation of the software.

[4] SETUP IN A WINDOWS ENVIRONMENT

1. SETTING THE IP ADDRESS OF THE MACHINE

Before installing the printer driver, be sure to set the IP address of the machine. Consult your network administrator for the correct IP address, subnet mask, and default gateway to be entered. If a DHCP server will automatically assign an IP address to the machine, the following procedure is not necessary. (To check the IP address assigned to the machine by DHCP, see "2. CHECKING THE IP ADDRESS" .)

Note: If the machine is used in a DHCP environment, the machine's IP address may change automatically. If this happens, printing will no longer be possible. In this event, use a WINS server or do not use the machine in a DHCP environment.

1) Make sure that the LAN cable is connected to the machine and then turn on the machine.

2) Insert the network expansion kit AR-NB2/AR-NB2N "Software" CD-ROM into your computer's CD-ROM drive.

3) Click the "start" button, click "My Computer" ( ), and then double-click the CD-ROM icon ( ).

   In Windows 95/98/Me/NT 4.0/2000, double-click "My Computer" and then double-click the CD-ROM icon.

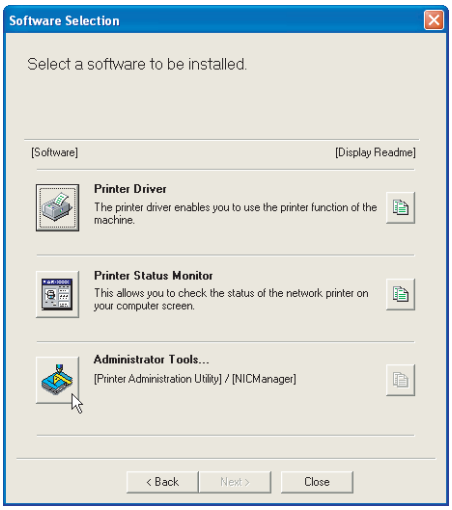
4) Double-click the "setup" icon ( ).

Note: If the language selection screen appears after you double click the "setup" icon, select the language that you wish to use and click the "Next" button. (Normally the correct language is selected automatically.)

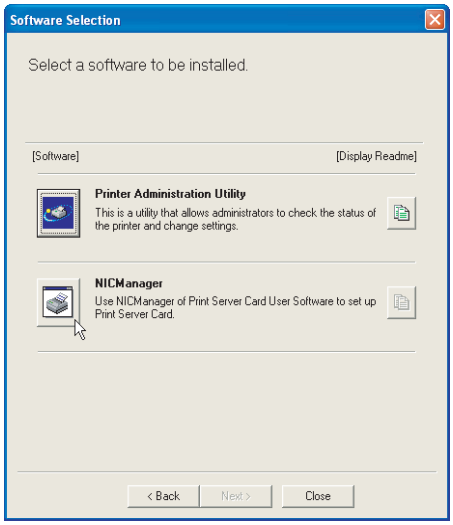
5) The "SOFTWARE LICENSE" window will appear. Make sure that you understand the contents of the license agreement, and then click the "Yes" button.

6) Read the message in the "Welcome" window and then click the "Next" button.

7) Click the "Administrator Tools" button.

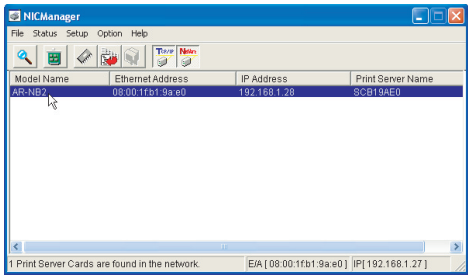


8) Click the "NICManager" button.

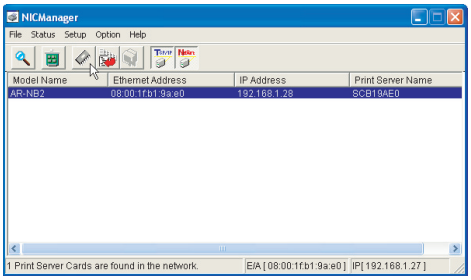


9) The printer or printers connected to the network will be detected. Click the printer to be configured (the machine).

   Select the "AR-NB2".



10) Click the "Print Server Card Setup" button.



   Enter your password in the password entry screen and click "OK".

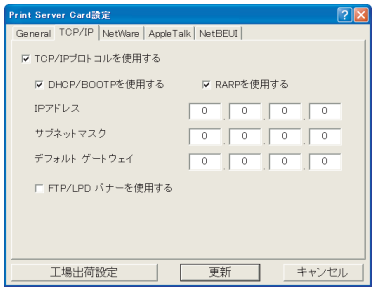
   The Print Server Card Setup window will appear.

   The password for this product has been initially set to "Sharp".

   If the "Guest user" checkbox is selected, the settings can be viewed but not configured.

11) Click the "TCP/IP" tab.

12) Configure the settings and then click the "Update" button.



Be sure to ask your network administrator for the correct IP address, subnet mask, and default gateway to be entered.

13) Your changes to the settings appear.

Make sure that the changes are correct and then click the "OK" button.

14) Restart the machine.

Power off the machine and then power it back on.

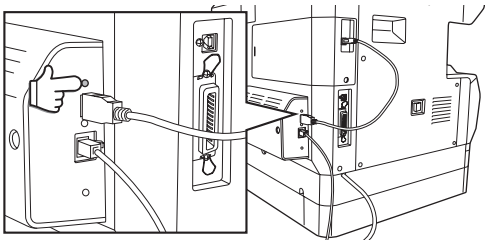
15) Select "Search" from the "File" menu.

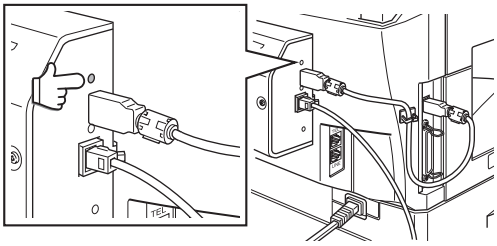
The IP address that you entered will appear. Make sure that it is correct.

The completes the IP address settings.

2. CHECKING THE IP ADDRESS

To check the IP address of the machine, press the status button on the network expansion kit to print out a network status page.





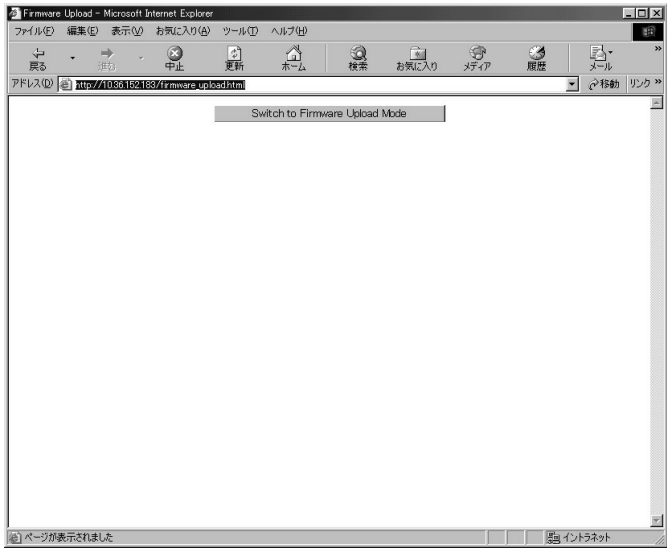
[5] Updating Network Box Firmware

Update the Network Box firmware in the following procedure using a Web browser.

1. Display the web page for updating Network Box firmware

   Start the browser on your PC and specify the following URL. A web page, as shown in Fig. 1, appears on screen.

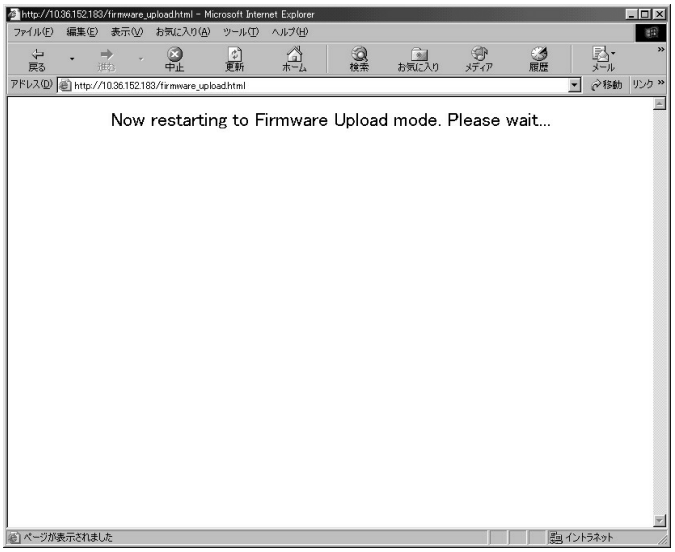
   http://<IP Address of Network Box>/firmware_upload.html



[Fig.1: Web page for updating Network Box firmware]

2. Switch to firmware upload mode

   Click the button on the screen, the message shown in Fig. 2 appears.

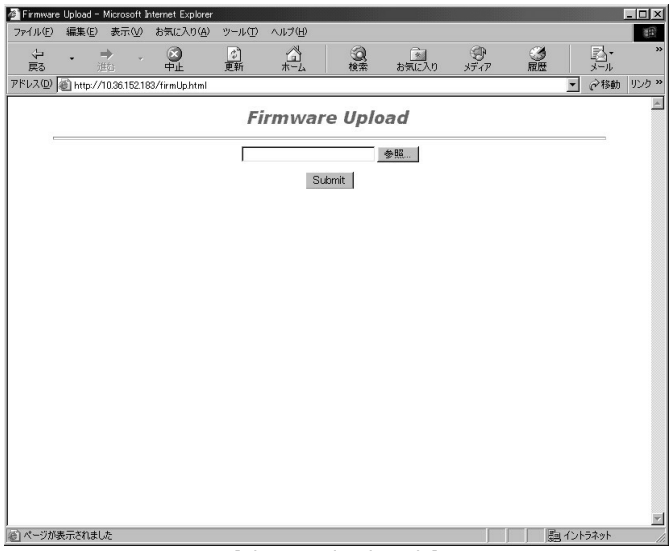


[Fig.2: Switch to firmware upload mode]

   The page changes to the Network Box firmware upload mode.

   The browser is automatically reloaded and then the screen looks like this.

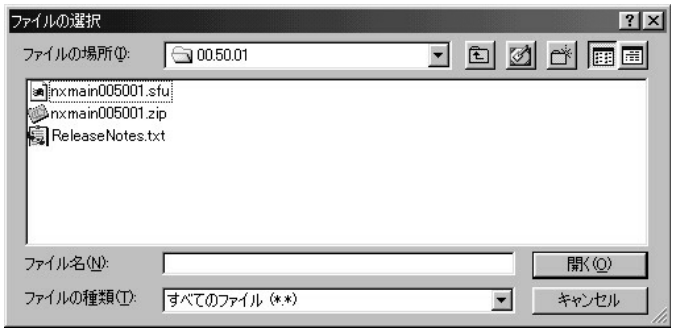
∗When the screen shown in fig.3 is not displayed, refresh a browser manually.



[Fig. 3: Upload mode]

3. Specifying the file

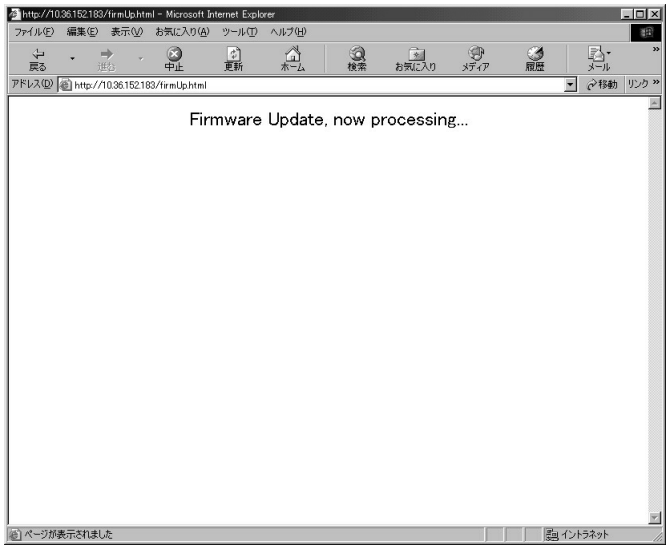
   Click the Reference button. Selects the firmware of the Network Box version you want to update, from the file selection menu indicated in Fig.4.



[Fig. 4: Specifying the file]

4. Updating the firmware

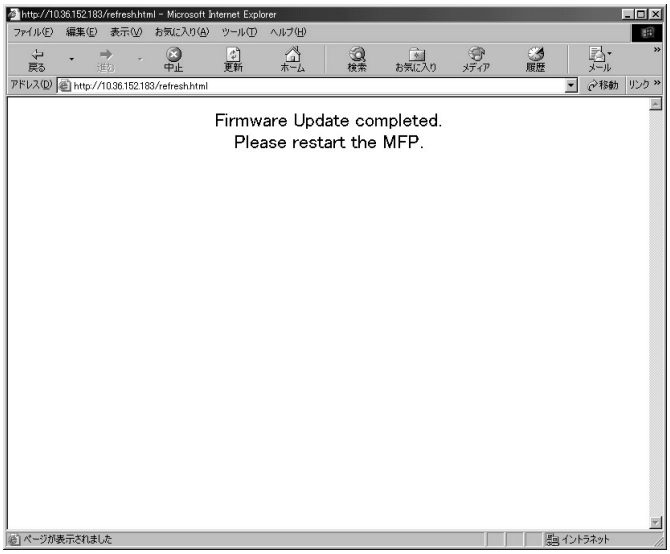
   After you select the file, click the Submit button. The firmware is transmitted to Network Box, and it is updated. The message indicated in Fig.5 blinks repeatedly until the updating process is completed. Do not turn off the power supply.



[Fig.5: Updating in progress]

5. Restarting your PC

   When updating is completed, the message shown in Fig.6 appears on screen. Turn off the power and then turn it on again to restart Network Box.



[Fig.6: Updating completed]

Note: If you want to set the IP address of the Network Box at first, use the NIC Manager. Select and set your model name and an appropriate Ethernet address from the list.

Both the Boot and Main files can be updated in the same procedure as mentioned above. However, when you want to update both at the same time, you need to update them separately by repeating the same procedure twice.

Caution: If a DHCP is used, the browser may not be able to reload automatically in some cases when transferring to the upload mode because different IP addresses are read. Therefore, we recommend that you use a fixed IP address when updating firmware.

If the upload mode is operating with different IP addresses, check the IP address obtained by the Ethernet address of Network Box from the DHCP server and display the updating mode URL again using the browser.

When a proxy server is used, the screen may not be updated by reloading. In that case, you need to update manually.

[6] TROUBLE CODE

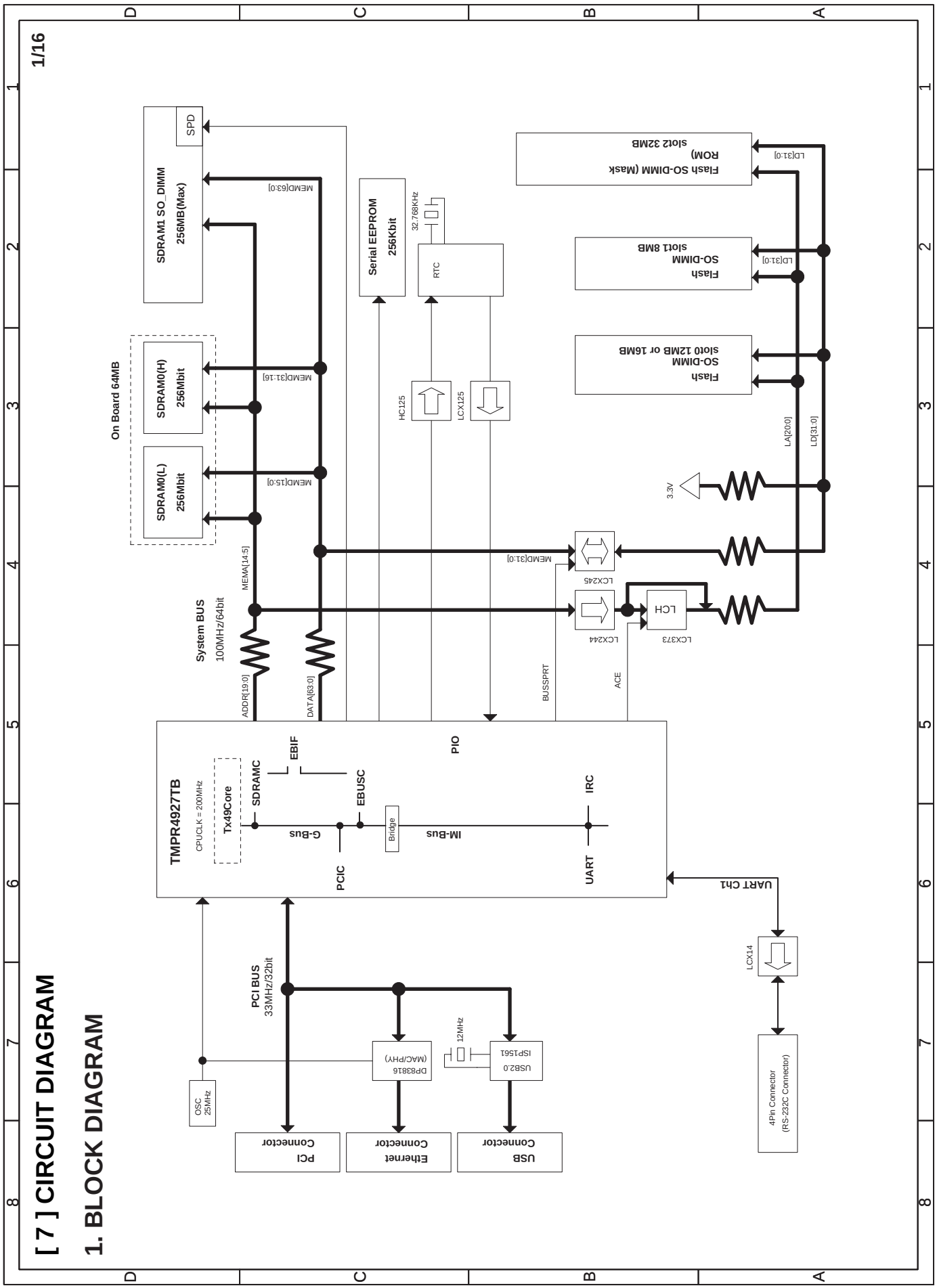
1. TROUBLE CODE (CE CODE)

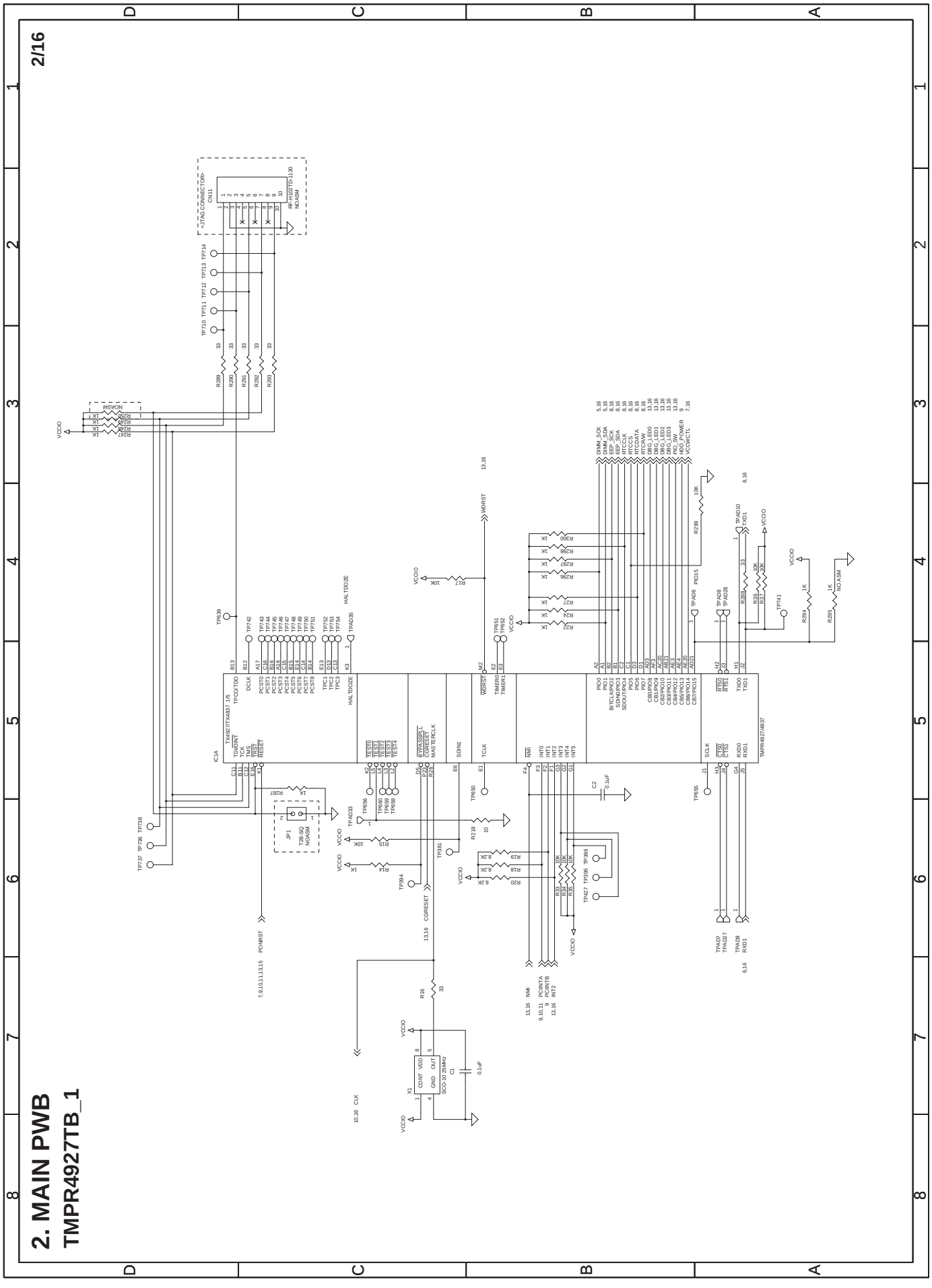
If "CE" blinks in the display, press the [START] key. An error code will appear.(Only AR-M160/M205, AR-5220. AR-168S/168D, AR-M150/155M displays an error code automatically.) Solve the problem as explained below.

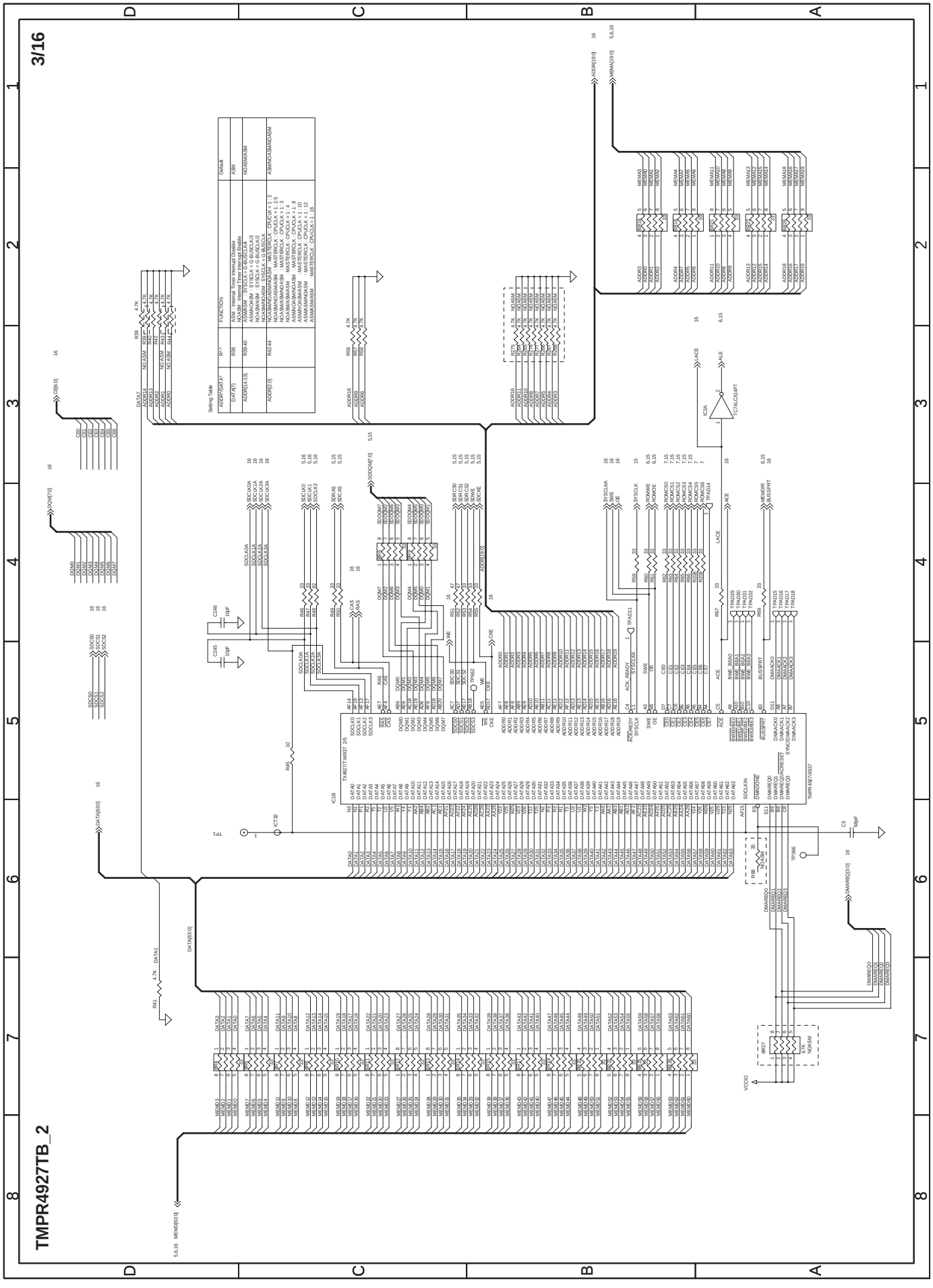
Error Code	Solution
CE-00	Error which cannot be specified occurred. Turn off the power and turn it back on. Consult with your network administrator to make sure that no problems exist on the network or in the server.
CE-01	Network Server card error. Turn off the power and turn it back on. Consult with your network administrator to make sure that no problems exist on the network or in the server.
CE-02	Server access denied. The scanned image was not sent because a connection to the server could not be established. Make sure that the SMTP server settings or FTP server settings in the Web page are correct.
CE-03	The scanned image was not sent because the server was busy or there was too much traffic. Wait briefly and then try again.
CE-04	It has not logged in to the FTP server and the mail server. Please reconfirm the login name and a password.
CE-05	The scanned image was not sent because the directory of the destination FTP server was not correct. Make sure that the correct FTP server information is configured in the Web page.
CE-09	The size of the scanned image file exceeds the upper limit set in "Maximum Size of File" in the Web page. Reduce the number of original pages scanned into the file, or change the upper limit set in "Maximum Size of File".
CE-10	A transmission method assigned to a [SCAN MENU] key cannot be used. Check the transmission methods assigned to the [SCAN MENU] keys in "Enable Scanner Delivery to:" in the Web page whether or not the method can be used.
CE-11	The memory filled with scanner data. It was not able to process by the size of a scanner data being too large. Please drop resolution of data by setup of scaner and retry scan.
CE-12	The quantity of the result for which LDAP searched exceeded the maximum quantity which can be searched. There are too many addresses which were in agreement with reference conditions. Please increase the number of reference characters and perform re-reference.

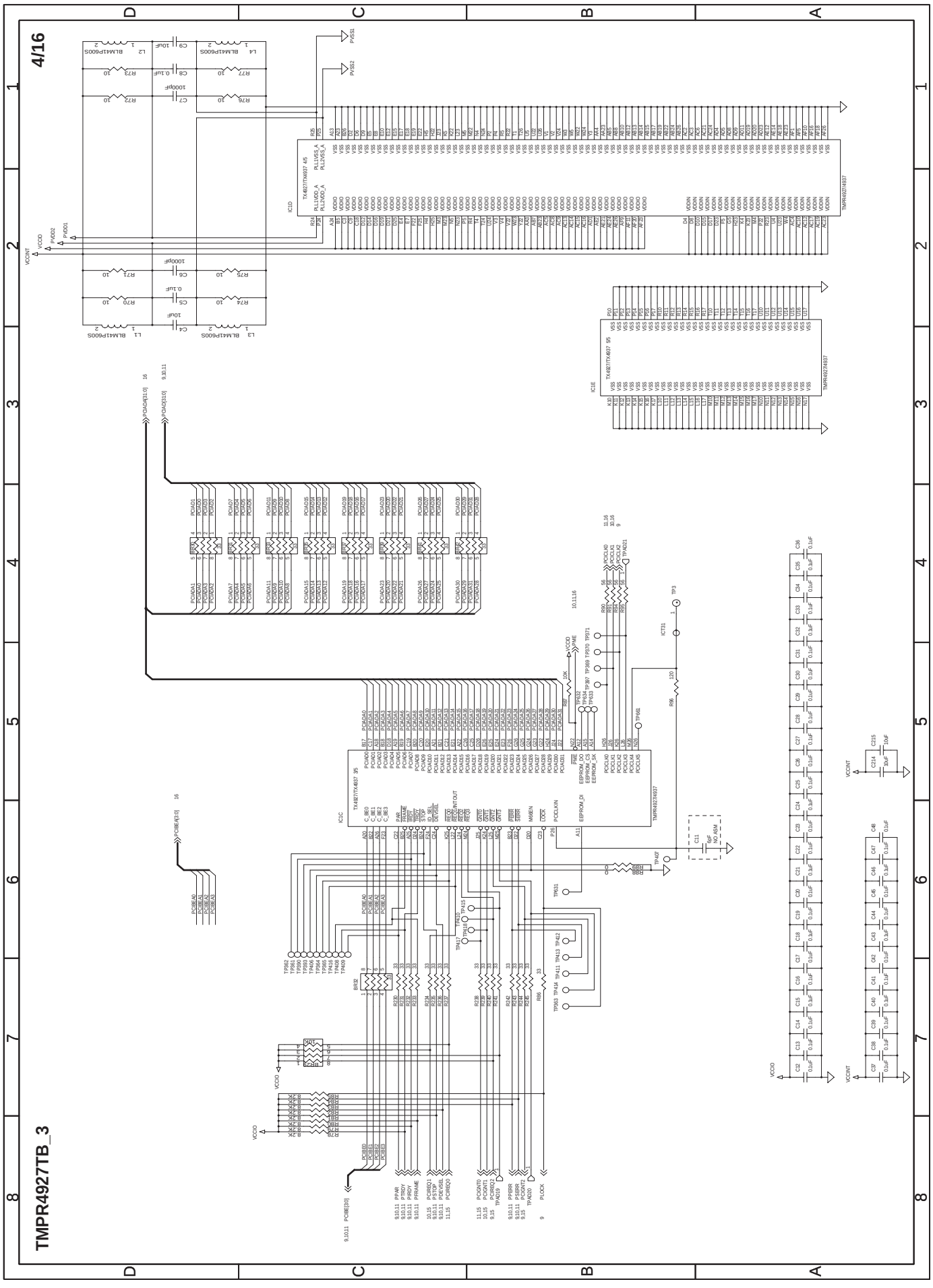
[7] CIRCUIT DIAGRAM

1. BLOCK DIAGRAM




2/16
2. MAIN PWB
TMPR4927TB_1


TMPR4927TB_2
3/16

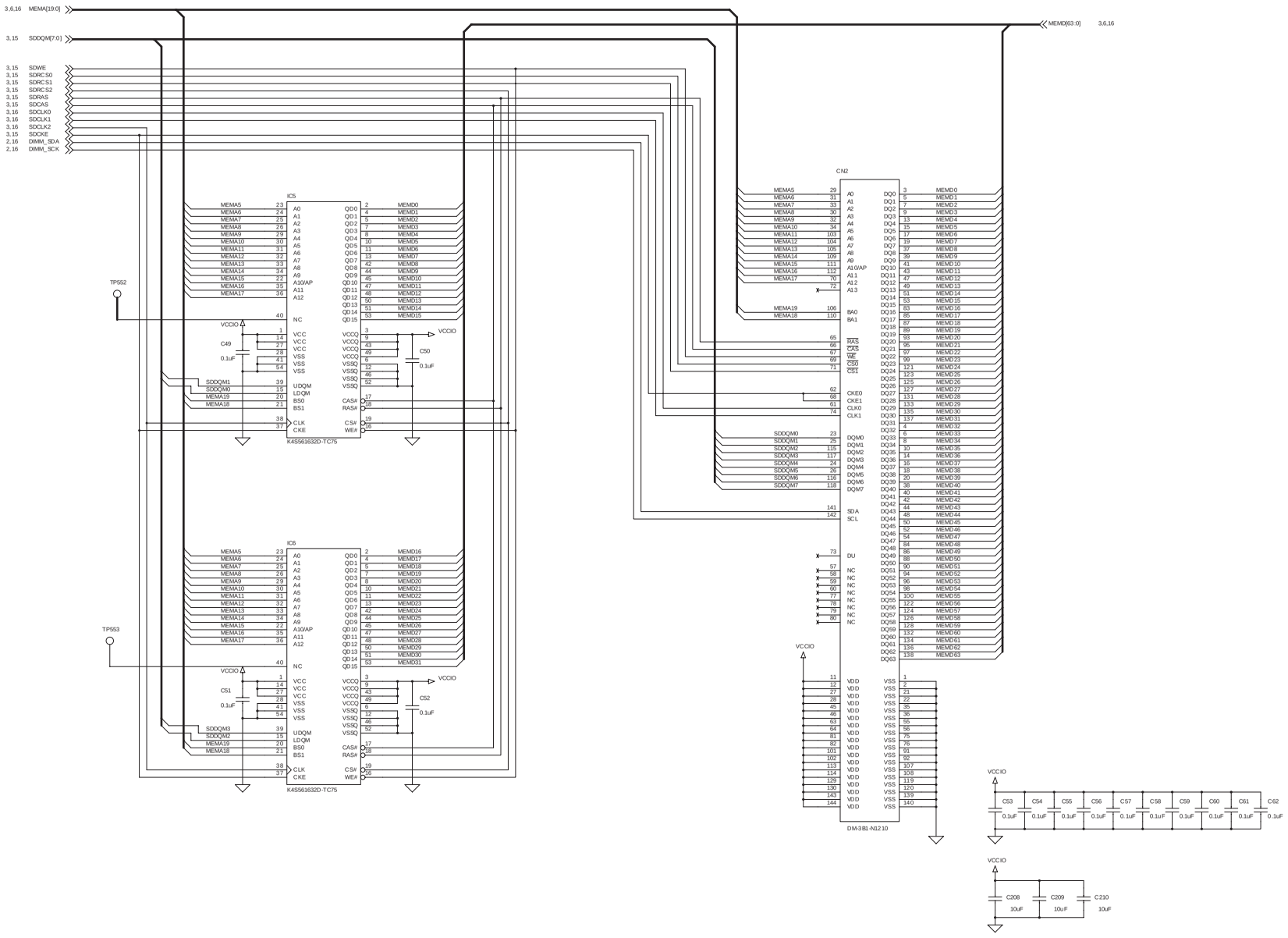

TMPR4927TB_3
4/16

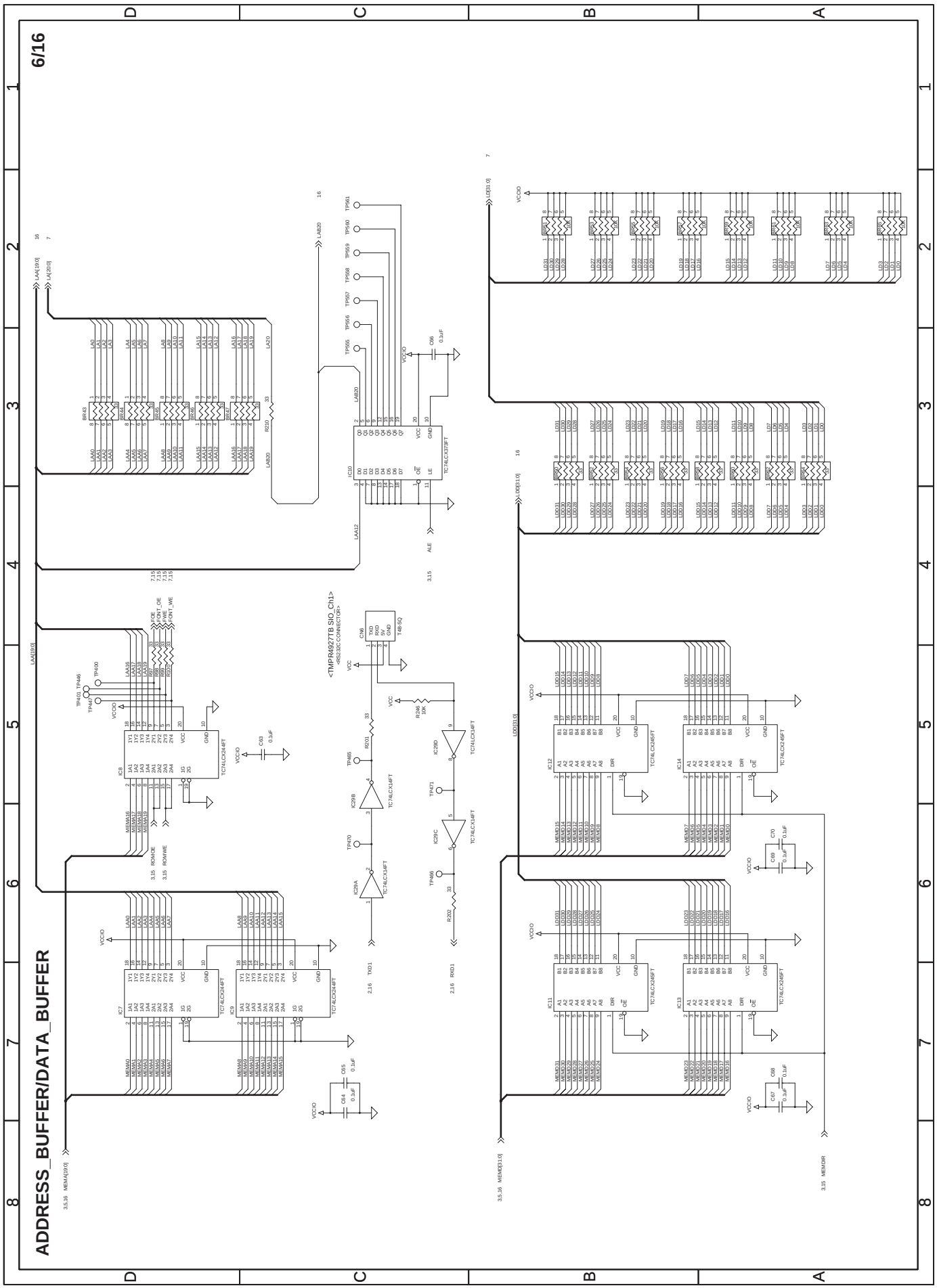
SDRAM

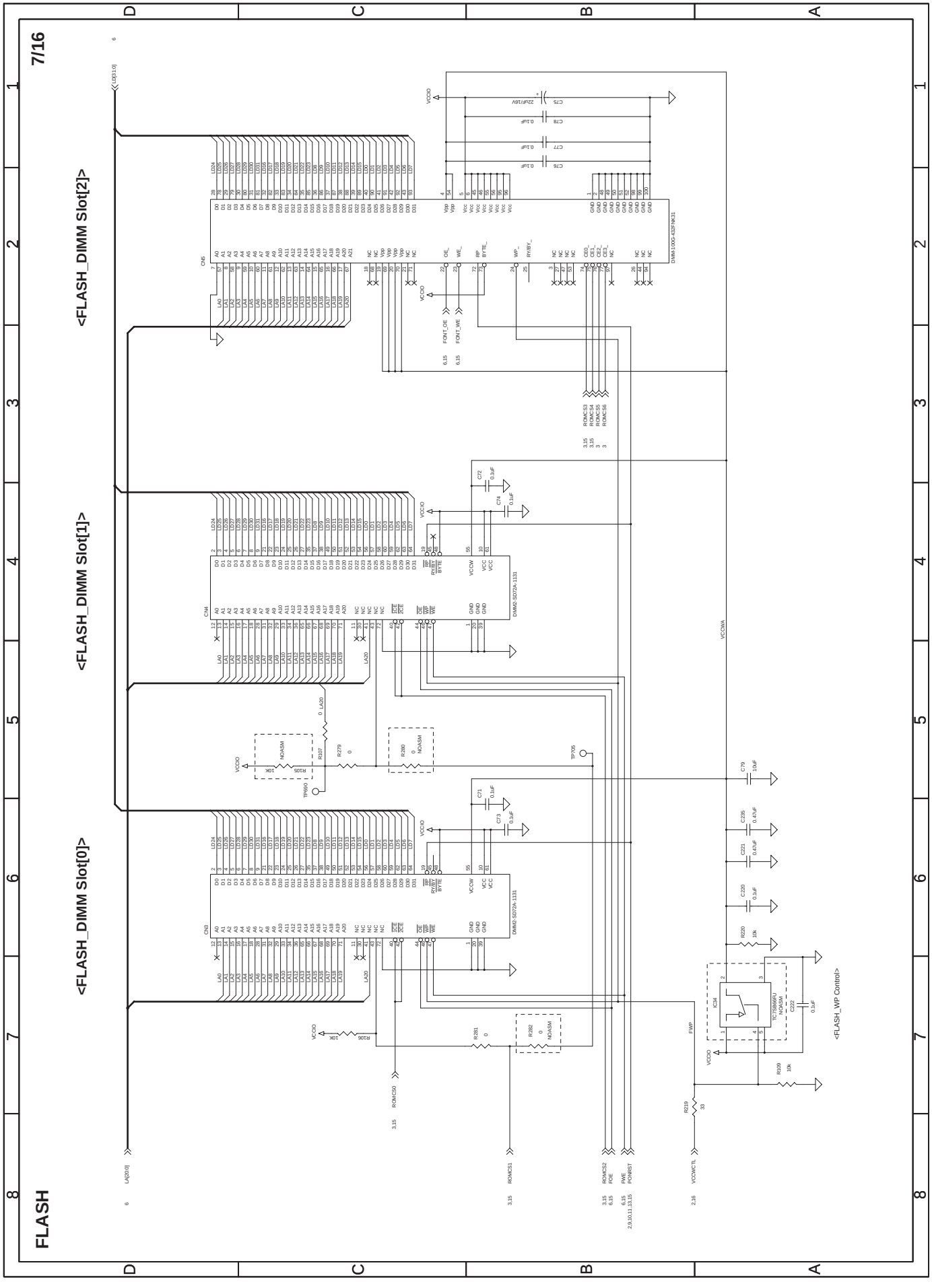
5/16

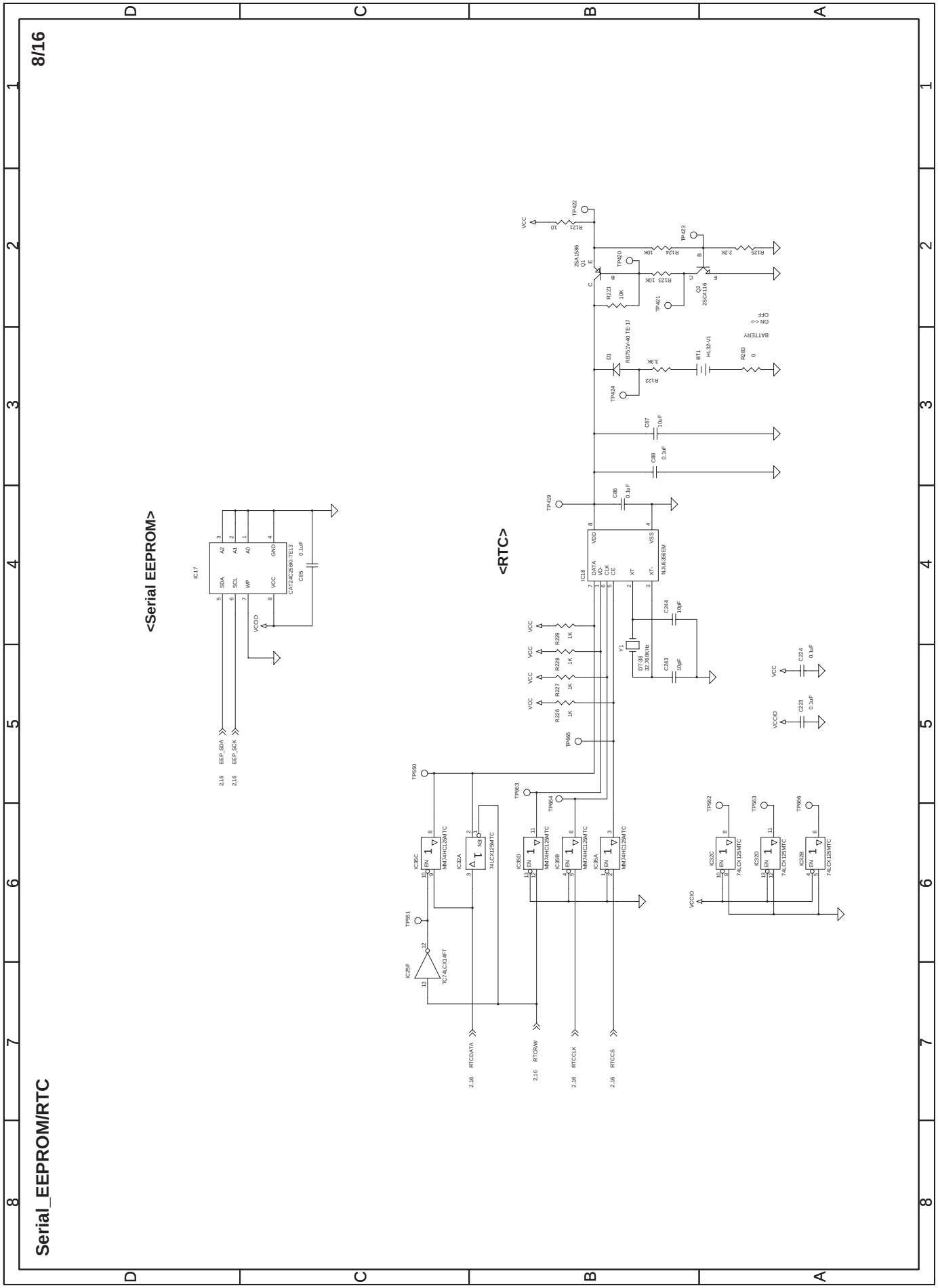
<On Board : 256Mbit x 2>

<SDRAM_SODIMM Slot[0]>



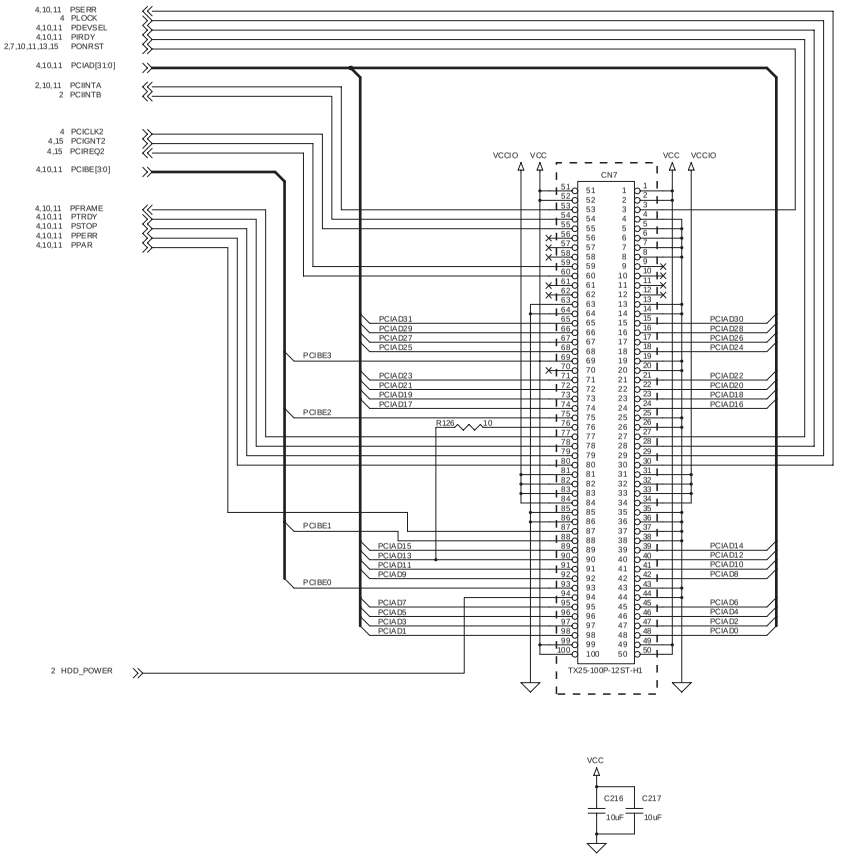

6/16
ADDRESS_BUFFER/DATA_BUFFER

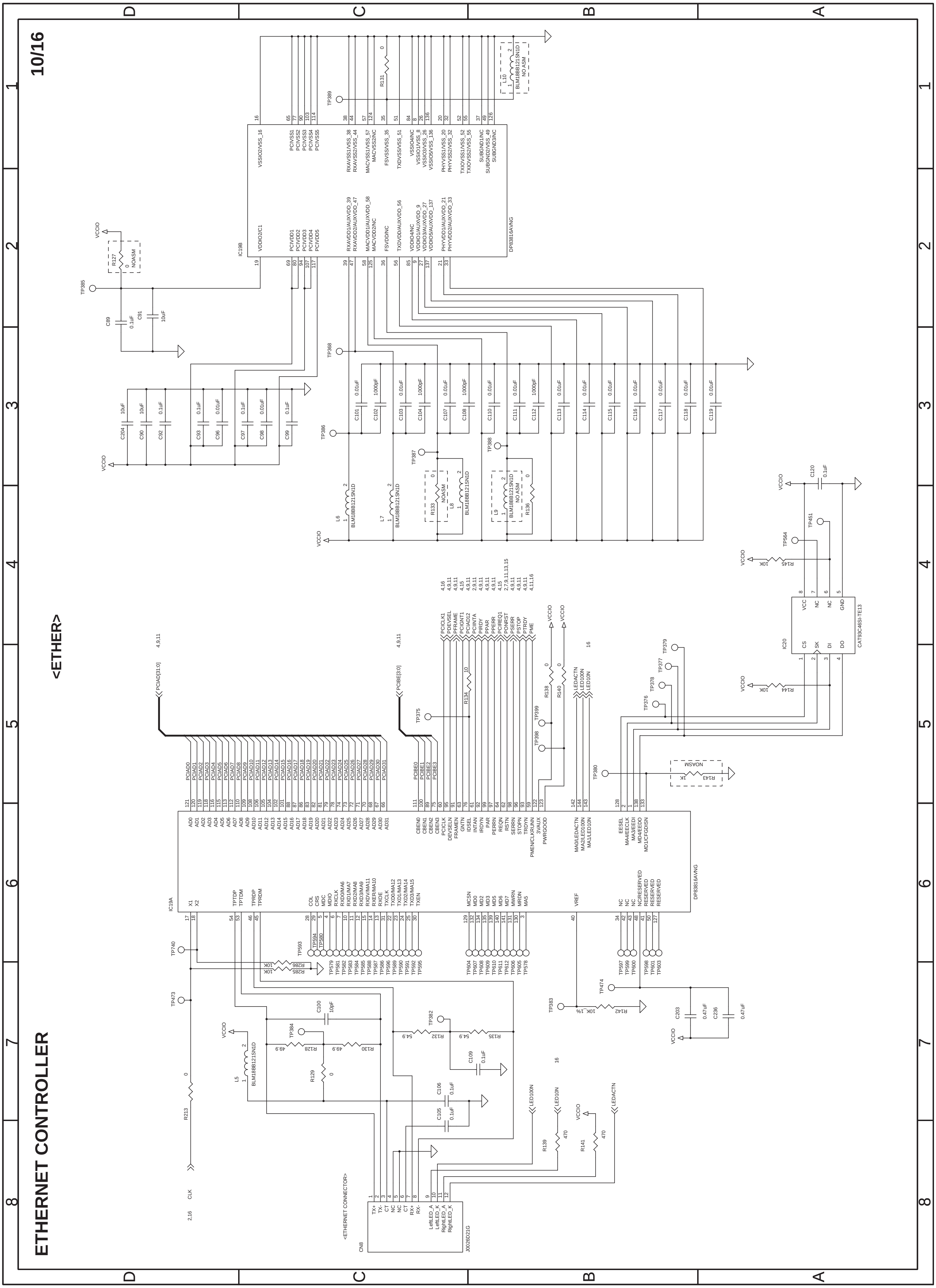

FLASH
7/16
<FLASH_DIMM Slot[0]>
<FLASH_DIMM Slot[1]>
<FLASH_DIMM Slot[2]>
<FLASH_WP Control>
DIMM2-SD72A-1131
DIMM-100G-432FNK31
TC7SB66FU
NOASM
VCCIO
VCCWA
FWP
LA[20:0]
ROMCS0
ROMCS1
ROMCS2
FOE
FWE
PONRST
VCCWCTL
FONT_OE
FONT_WE
ROMCS3
ROMCS4
ROMCS5
ROMCS6


Serial_EEPROM/RTC
8/16
<Serial EEPROM>
<RTC>
IC17
CAT24C256K-TE13
IC18
NJU6355EM
Y1
DT-38
32.768KHz
IC35C
IC32A
IC35D
IC35B
IC35A
IC32C
IC32D
IC32B
IC25F
TC74LCX14FT
MM74HC125MTC
74LCX125MTC
BATTERY
ON <->
OFF
EEP_SDA
EEP_SCK
RTCDATA
RTCRW
RTCCLK
RTCCS
VCC
VCCIO

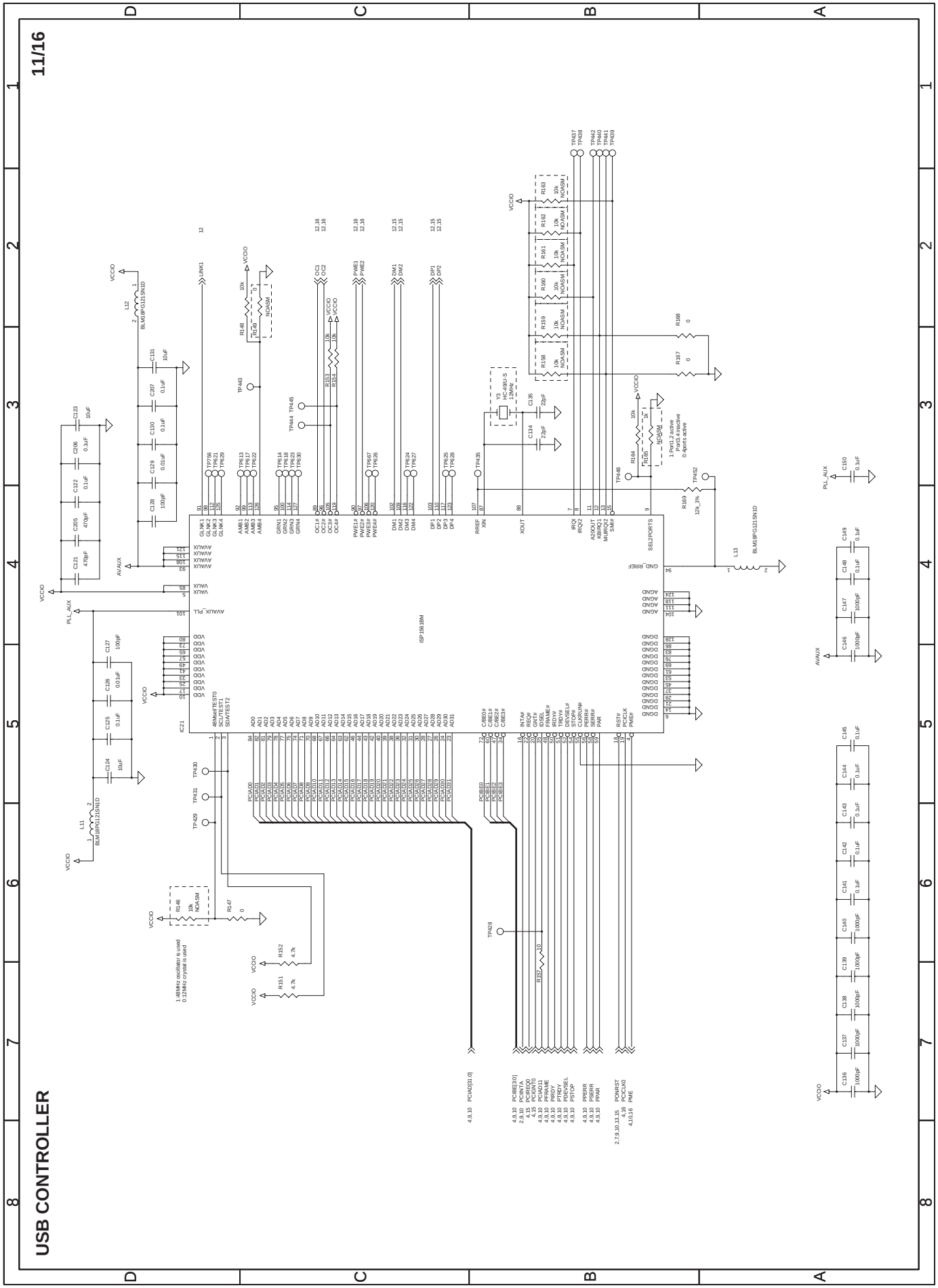
PCI CONNECTOR

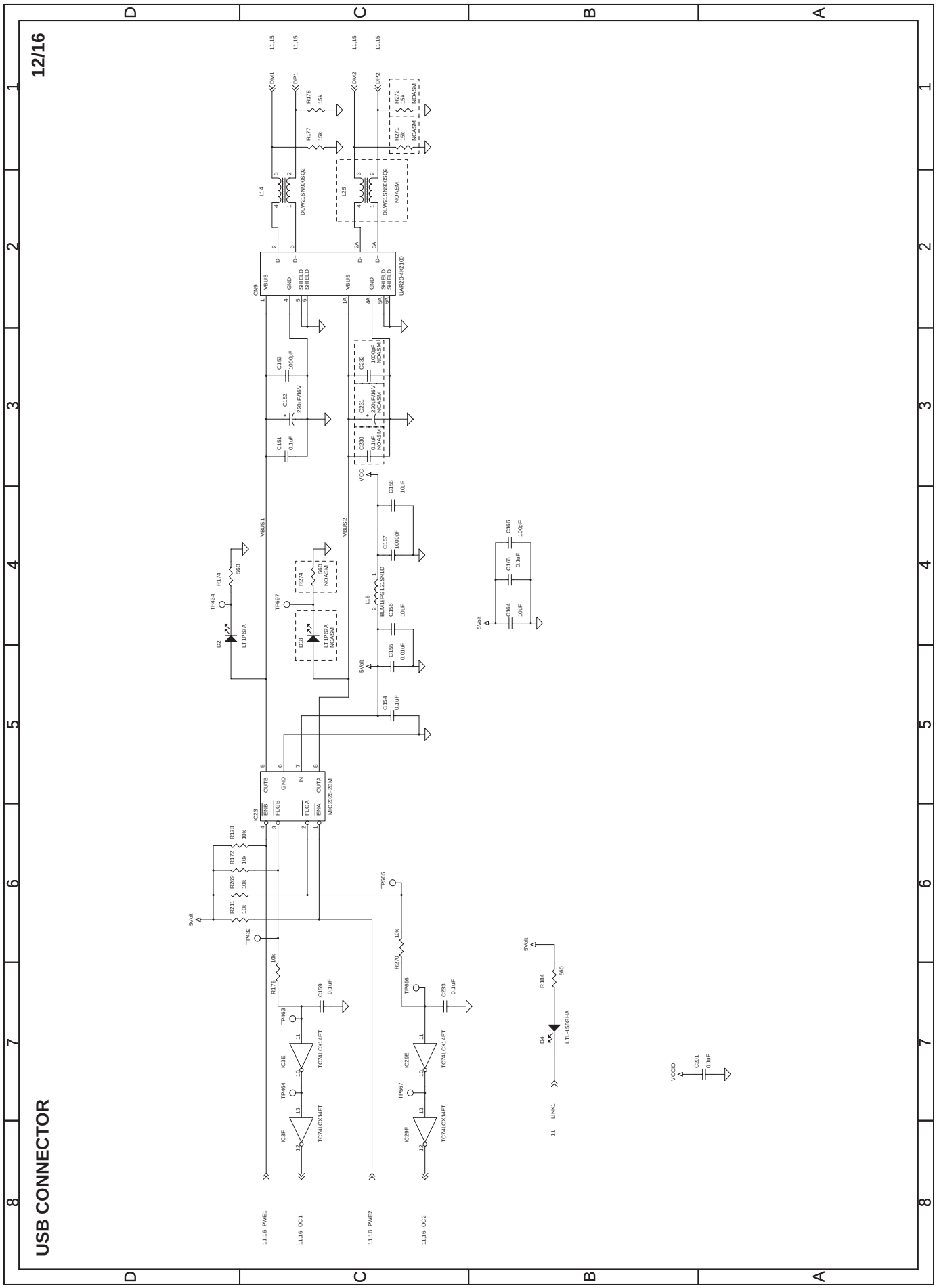
<PCI_Slot [A]>

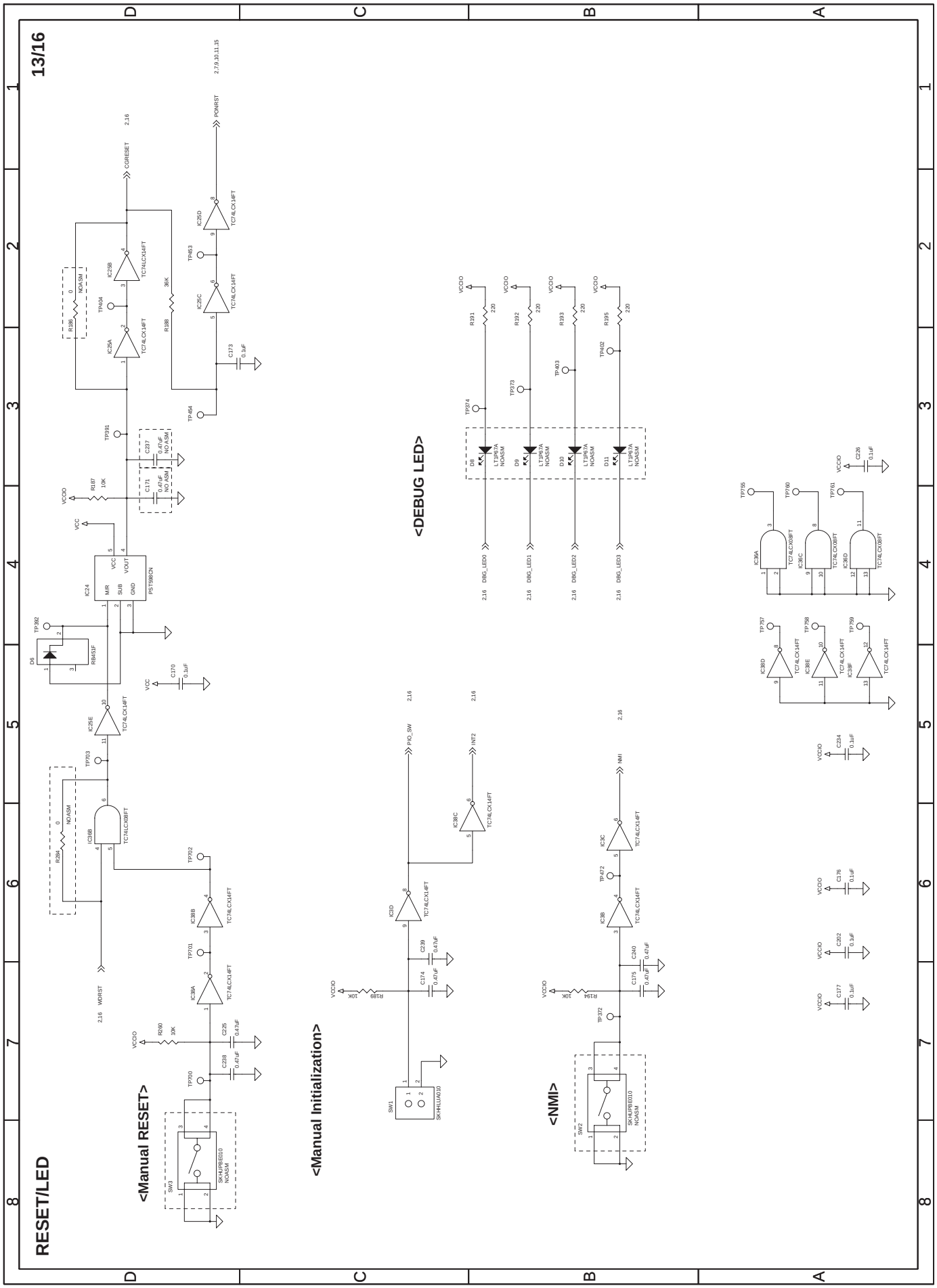


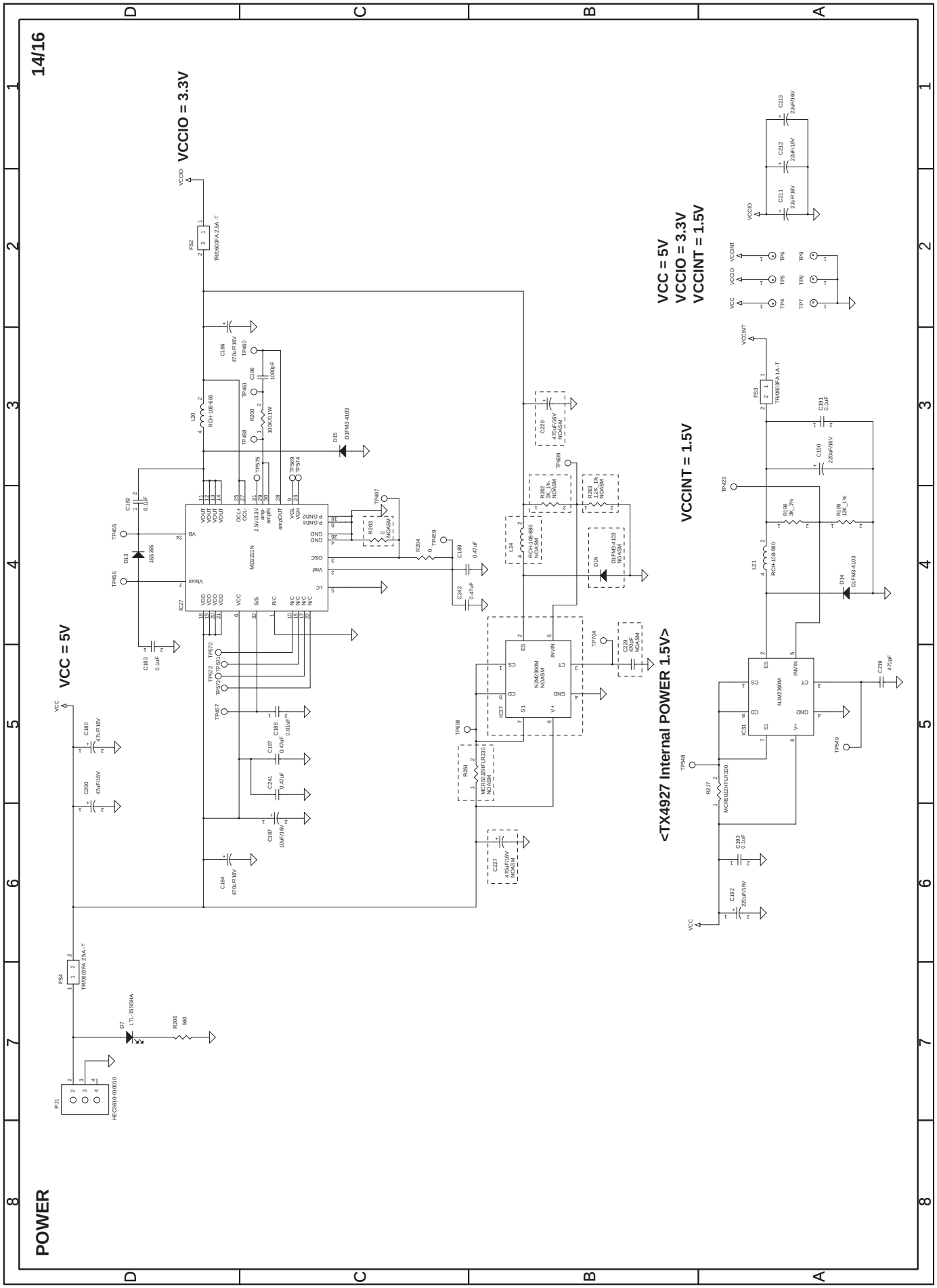


ETHERNET CONTROLLER
10/16
<ETHER>
IC19A
IC19B
DP83816AVNG
IC20
CAT93C46SI-TE13
CN8
<ETHERNET CONNECTOR>
J0026D21G
PCIAD[31:0]
PCIBE[3:0]
VCCIO
CLK
LED100N
LED10N
LEDACTN
BLM18BB121SN1D
NO ASM

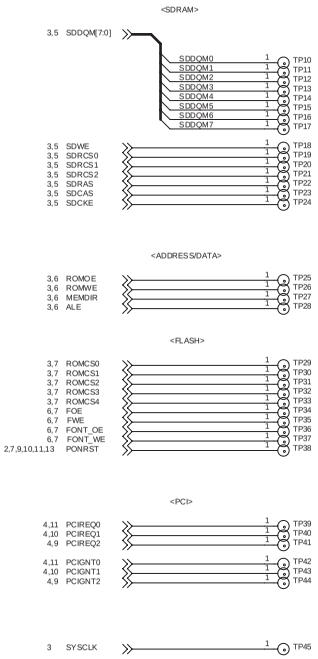

11/16
USB CONTROLLER

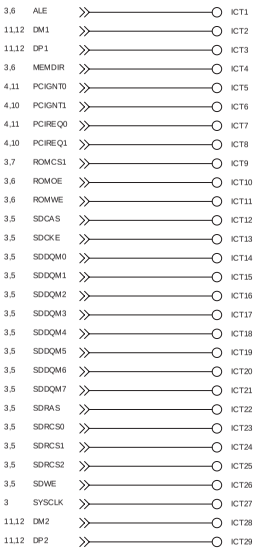

USB CONNECTOR
12/16
CN9
UAR20-4K2100
IC23
MIC2026-2BM
IC3F
IC3E
IC29F
IC29E
TC74LCX14FT
D2
LT1P67A
D18
LT1P67A
NOASM
D4
LTL-155GHA
L14
DLW21SN900SQ2
L25
DLW21SN900SQ2
NOASM
L15
BLM18PG121SN1D
VBUS1
VBUS2
VCC
5Volt
VCCIO
11.16 PWE1
11.16 OC1
11.16 PWE2
11.16 OC2
11 LINK1


RESET/LED
13/16
<Manual RESET>
<Manual Initialization>
<NMI>
<DEBUG LED>

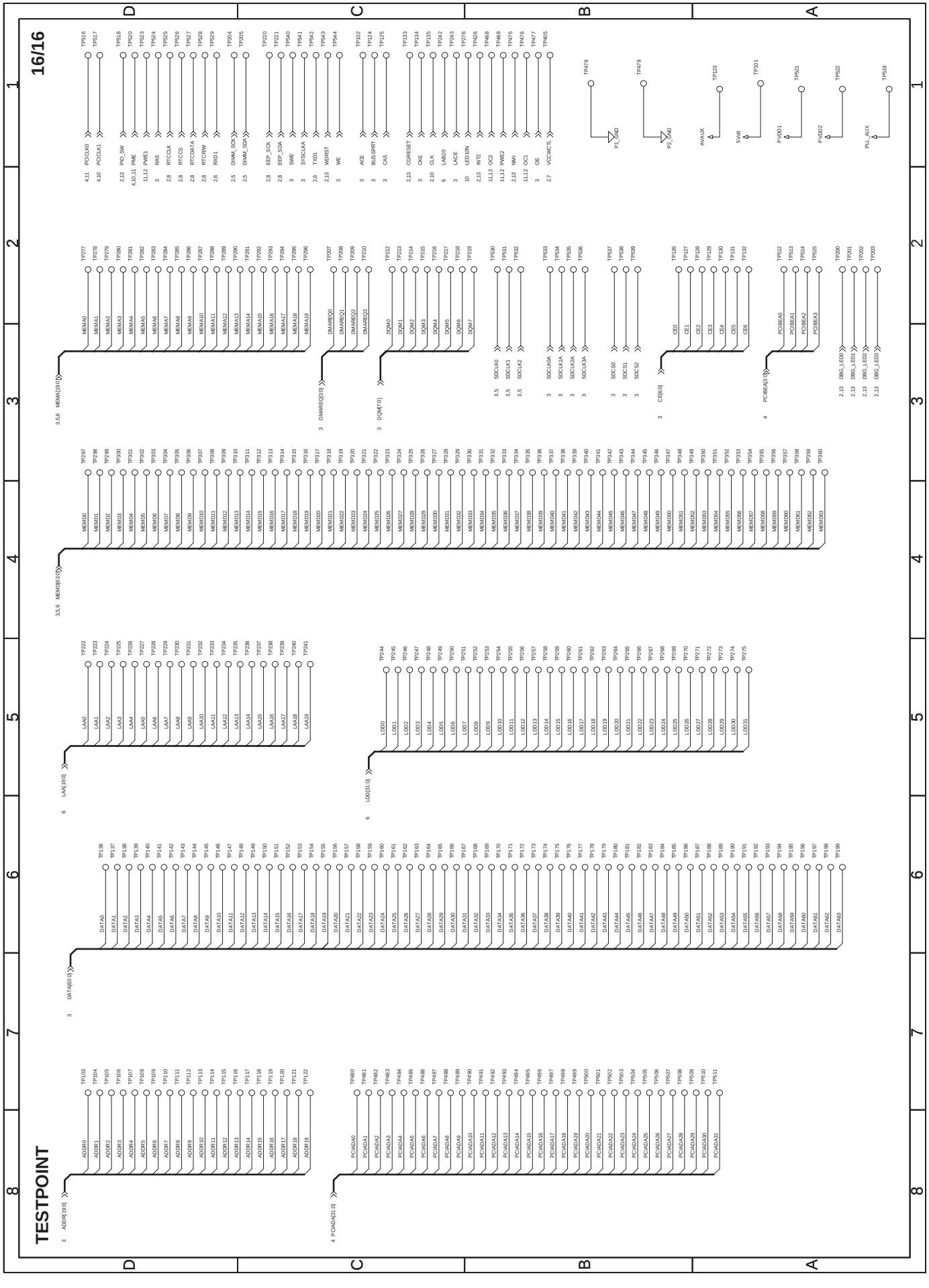

14/16
POWER
VCC = 5V
VCCIO = 3.3V
VCCINT = 1.5V
<TX4927 Internal POWER 1.5V>
VCC = 5V
VCCIO = 3.3V
VCCINT = 1.5V

TESTPOINT


<SDRAM>
3,5 SDDQM[7:0]
SDDQM0
SDDQM1
SDDQM2
SDDQM3
SDDQM4
SDDQM5
SDDQM6
SDDQM7
TP10
TP11
TP12
TP13
TP14
TP15
TP16
TP17
3,5 SDWE
3,5 SDRCS0
3,5 SDRCS1
3,5 SDRCS2
3,5 SDRAS
3,5 SDCAS
3,5 SDCKE
TP18
TP19
TP20
TP21
TP22
TP23
TP24
<ADDRESS/DATA>
3,6 ROMOE
3,6 ROMWE
3,6 MEMDIR
3,6 ALE
TP25
TP26
TP27
TP28
<FLASH>
3,7 ROMCS0
3,7 ROMCS1
3,7 ROMCS2
3,7 ROMCS3
3,7 ROMCS4
6,7 FOE
6,7 FWE
6,7 FONT_OE
6,7 FONT_WE
2,7,9,10,11,13 PONRST
TP29
TP30
TP31
TP32
TP33
TP34
TP35
TP36
TP37
TP38
<PCI>
4,11 PCIREQ0
4,10 PCIREQ1
4,9 PCIREQ2
TP39
TP40
TP41
4,11 PCIGNT0
4,10 PCIGNT1
4,9 PCIGNT2
TP42
TP43
TP44
3 SYSCLK
TP45

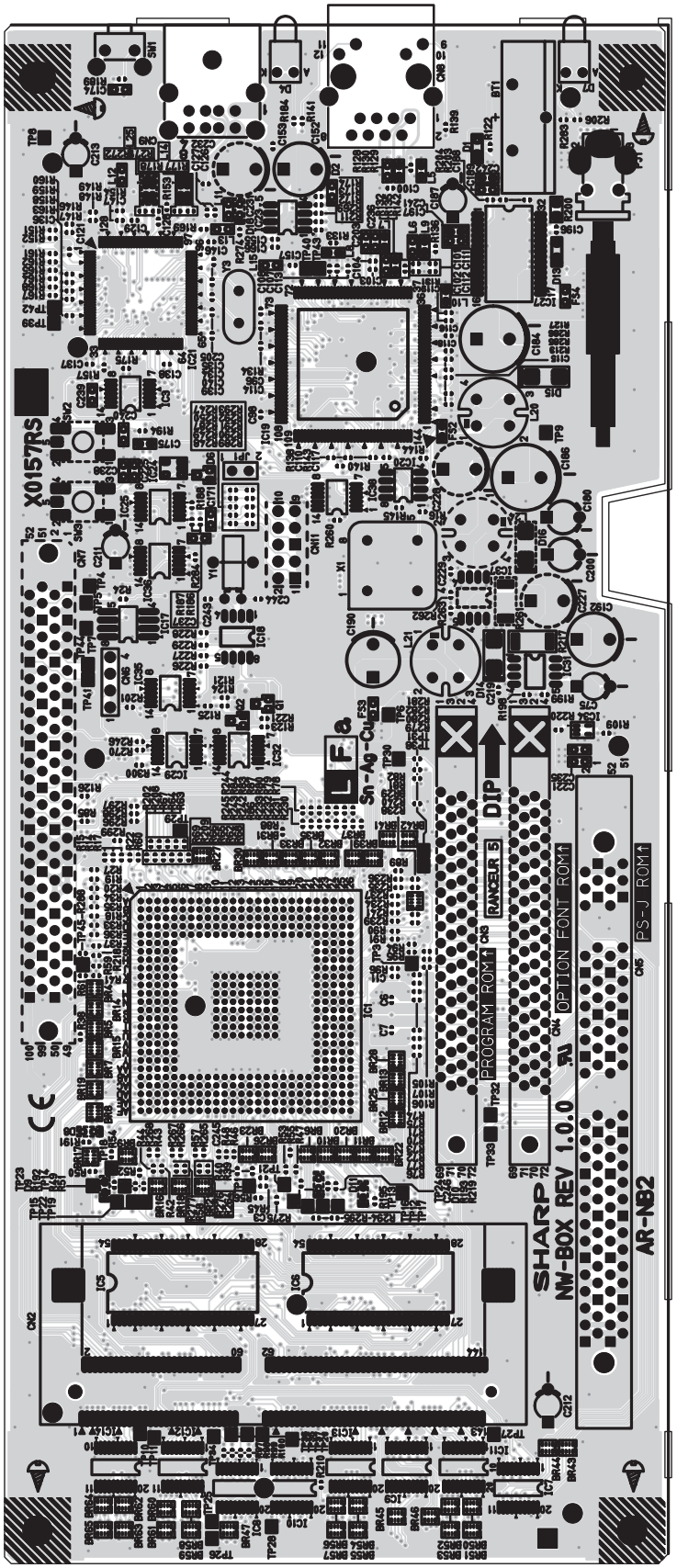

3,6 ALE
11,12 DM1
11,12 DP1
3,6 MEMDIR
4,11 PCIGNT0
4,10 PCIGNT1
4,11 PCIREQ0
4,10 PCIREQ1
3,7 ROMCS1
3,6 ROMOE
3,6 ROMWE
3,5 SDCAS
3,5 SDCKE
3,5 SDDQM0
3,5 SDDQM1
3,5 SDDQM2
3,5 SDDQM3
3,5 SDDQM4
3,5 SDDQM5
3,5 SDDQM6
3,5 SDDQM7
3,5 SDRAS
3,5 SDRCS0
3,5 SDRCS1
3,5 SDRCS2
3,5 SDWE
3 SYSCLK
11,12 DM2
11,12 DP2
ICT1
ICT2
ICT3
ICT4
ICT5
ICT6
ICT7
ICT8
ICT9
ICT10
ICT11
ICT12
ICT13
ICT14
ICT15
ICT16
ICT17
ICT18
ICT19
ICT20
ICT21
ICT22
ICT23
ICT24
ICT25
ICT26
ICT27
ICT28
ICT29

VCCINT
ICT30

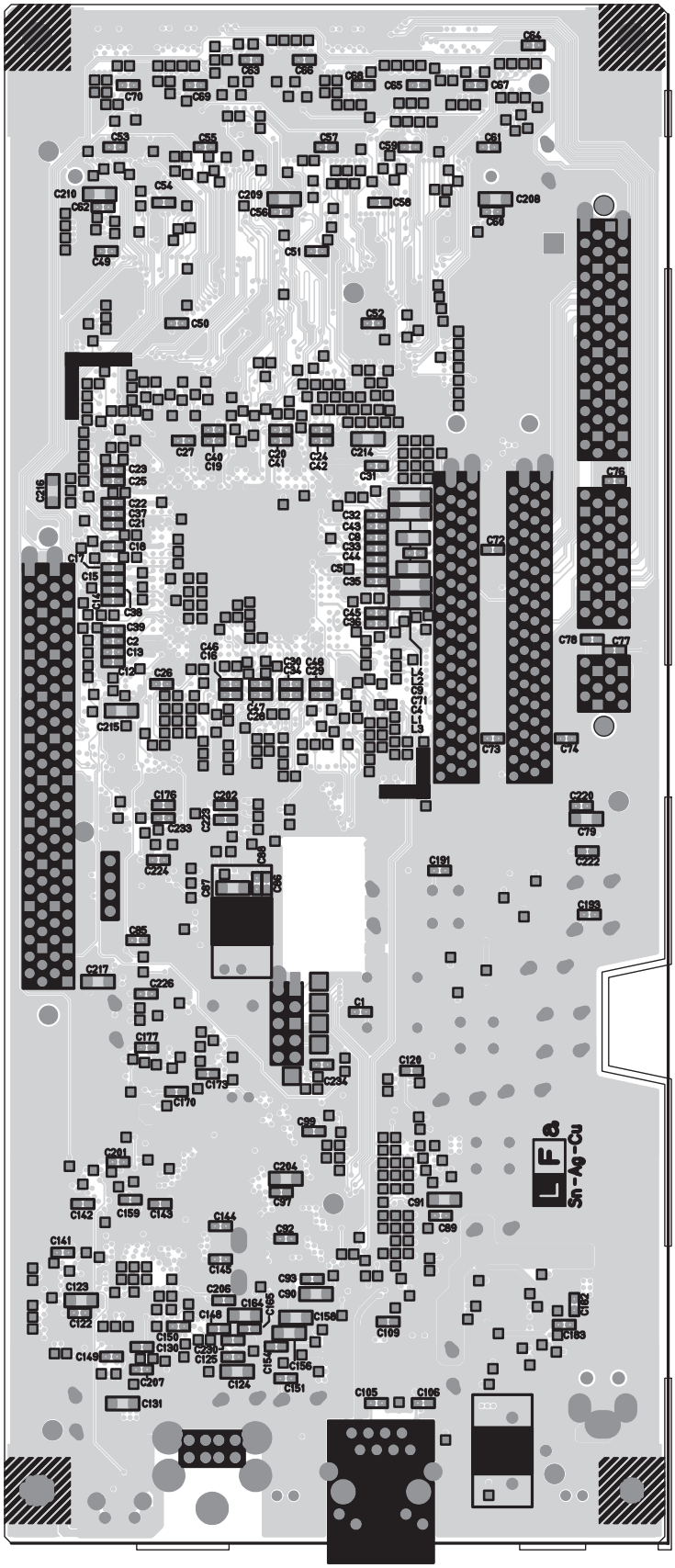

16/16
TESTPOINT
MEMA[19:0]
MEMD[63:0]
DMAREQ[3:0]
DQM[7:0]
SDCLK[0:3]
SDCLKA[0:3]
SDCS[0:3]
CE[6:0]
PCIBEA[3:0]
DBG_LED[0:3]
LAA[19:0]
LDD[31:0]
DATA[63:0]
ADDR[19:0]
PCIADA[31:0]
PCI_CLK[0:1]
PIO_SW
PME
PWE[1:0]
RAS
RTC_CLK
RTC_CS
RTC_DATA
RTC_RW
RXD[1:0]
DIMM_SCK
DIMM_SDA
EEP_SCK
EEP_SDA
SWE
SYSCLKA
TXD[1:0]
WDRST
WE
ACE
BUS_RPRT
CAS
CORESET
CKE
CLK
LAB20
LACE
LED_DN
INT2
OC2
PWE2
NMI
OC1
OE
VCC_WCTL
P1_GND
P2_GND
AVAUX
5Volt
P_VDD1
P_VDD2
PLL_AUX

[8] PARTS LAYOUT

1. PARTS SIDE



2. SOLDER SIDE



CAUTION FOR BATTERY REPLACEMENT

(Danish) ADVARSEL !
Lithiumbatteri - Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri
af samme fabrikat og type.
Levér det brugte batteri tilbage til leverandoren.

(English) Caution !
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type
recommended by the manufacturer.
Dispose of used batteries according to manufacturer's instructions.

(Finnish) VAROITUS
Paristo voi räjähtää,jos se on virheellisesti asennettu.
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan
tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden
mukaisesti.

(French) ATTENTION
Il y a danger d'explosion s'il y a remplacement incorrect
de la batterie. Remplacer uniquement avec une batterie du
même type on d'un type équivalent recommandé par
le constructeur.
Mettre au rébut les batteries usagées conformément aux
instructions du fabricant.

(Swedish) VARNING
Explosionsfara vid felaktigt batteribyte.
Använd samma batterityp eller en ekvivalent
typ som rekornmenderas av apparattillverkaren.
Kassera använt batteri enligt fabrikantens
Instruktion.

(German) Achtung
Explosionsgefahr bei Verwendung inkorrekter Batterien.
Als Ersatzbatterien dürfen nur Batterien vom gleichen Typ oder
vom Hersteller empfohlene Batterien verwendet werden.
Entsorgung der gebrauchten Batterien nur nach den vom
Hersteller angegebenen Anwerisugen.

CAUTION FOR BATTERY DISPOSAL

(For USA,CANADA)

"BATTERY DISPOSAL"
THIS PRODUCT CONTAINS A LITHIUM PRIMARY
(MANGANESS DIOXIDE) MEMORY BACK-UP BATTERY
THAT MUST BE DISPOSED OF PROPERLY. REMOVE THE
BATTERY FROM THE PRODUCT AND CONTACT YOUR
LOCAL ENVIRONMENTAL AGENCIES FOR INFORMATION
ON RECYCLING AND DISPOSAL OPTIONS.

"TRAITEMENT DES PILES USAGÉES"
CE PRODUIT CONTIENT UNE PILE DE SAUVEGARDE DE
MÉMOIRE LITHIUM PRIMAIRE (DIOXYDE DE MANGANESE)
QUI DOIT ÊTRE TRAITÉE CORRECTEMENT. ENLEVEZ LA
PILE DU PRODUIT ET PRENEZ CONTACT AVEC VOTRE
AGENCE ENVIRONNEMENTALE LOCALE POUR DES
INFORMATIONS SUR LES MÉTHODES DE RECYCLAGE ET
DE TRAITEMENT.

SHARP

COPYRIGHT © 2004 BY SHARP CORPORATION

All rights reserved.
Printed in Japan.
No part of this publication may be reproduced,
stored in a retrieval system, or transmitted.
In any form or by any means,
electronic, mechanical, photocopying, recording, or otherwise,
without prior written permission of the publisher.

SHARP CORPORATION
Digital Document Systems Group
Products Quality Assurance Department
Yamatokoriyama, Nara 639-1186, Japan
2004 January Printed in Japan ⓣ